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ART. I.—*Experimental Researches upon Febrile Caloricity, both before and after death—Post-mortem Fever.* By BENNET DOWLER, M.D., of New Orleans.

In these researches, it is not intended to enter upon the general theory of fever, though a few brief explanatory notices of some elementary, or rather incidental points, are deemed necessary for the purpose of illustration and comparison.

It has been often remarked, that the ancient fathers in medicine regarded fever in a very literal sense, as a morbid heat; a notion which, though ridiculed by some modern authors, has prevailed in all times, and in all places among

the people. This simple view of fever will suffer little by comparison with the vague, cumbrous definitions of the most fastidious nosologists, such as Cullen, Good, and others. Dr. Billing, a late writer, says that the essential symptom of fever is "debility"—"all superadditions non-essential," (Prin. Med. p. 231 et seq.); Boisseau calls it an idiopathic local irritation, (Fevers, p. 490): Broussais holds the same doctrine. British authors, less simple in their definitions, give HEAT an obscure position in the catalogue. Wilson Philip, (vol. 1, p. 43, Fevers), makes fevers to consist in the following symptoms: "Languor, lassitude, and other signs of debility, followed by a frequent pulse and increased heat, without any primary local affection." Fordyce says, "Fever is a disease of the whole system," (Fevers, p. 16, et passim). Some authors regard putridity, some a hurried pulse, &c., as the essential characteristic, but after all the countless works upon the subject it would seem that no single symptom is more to be relied on than that given by Hippocrates and Galen,—a *burning*, a *morbid heat:* the latter considers that this *unnatural heat* originates in the heart, whence it is diffused over the whole body: "*Calor quidam præter naturam in corde generatus.*"—both these authors appear to regard febrile heat not only as to its augmentations, but also with respect to alterations of quality and unequal distributions in the body.

The ancients, it must be confessed, were sometimes very incorrect and extravagant in their estimates of the importance of heat. "*Quod calidum vocamus,*" said Hippocrates, "*id mihi et immortale esse videtur, et cuncta intelligere, et videre, et audire, et scire omnia, tum præsentia tum futura.* (*Lib. de carn. c.* 1).

Multitudinous analogies might, perhaps, be traced between febrile caloricity, and concentrations of caloric applied to the body in burns of a certain degree; the effects are somewhat similar, as the rigor, the reaction, and even the internal lesions. Mr. Curling noticed vomitings and purgings of *blood*, and found acute ulcerations of the intestinal mucous tissue, chiefly in the duodenum,

as results of burns. (Med. Chir. Rev., Jan. 1843). Baron Dupuytren gives a summary of the symptoms of burns in the first degree, over a large surface, in the following words: "The pulse rises, becomes frequent, the tongue reddens, and the phenomena of gastro-intestinal irritation are developed." (Leçons. 16). It will yet in all probability be proved even in algid or congestive fever, that the heat of the central parts is, what the patient feels it to be, very great, morbid, unnatural, characteristic.

As the following experiments and observations afford, in many instances, deductions so opposite to those of all the authors I have seen, I must throw myself upon the indulgence of the reader until all my facts have been given. And, since I intend to give the details of each experiment, so that others may prove or disprove them, I may without arrogance ask this much in advance. For example, if my observations show that there is an increase of heat after apparent death, a true *post-mortem fever*, hotter than is ever known during life—that the thigh is hotter than the epigastrum, the heart, the lungs, and the brain,—let not the reader conclude that I am mistaken, simply because others advance doctrines, not facts, quite different. Be it remembered that my observations contradict their opinions only, not their experiments, because they have made none, so far as I know, under the same circumstances. The animal heat is supposed to be greater in the brain, heart, lungs and stomach, than in the rectum or thigh, because the latter are farther from the centre. Now, so far as I have experimented, immediately, as well as some hours after death from fever, the contrary is generally true, and, in the absence of conflicting experiments, I think that no theoretical view can weigh a feather against facts.

I may here remark, that except the primary stage of fever, the best period, or *point de départ*, for ascertaining the true morbid heat proper to that malady is that immediately after death.

The temperature of the human body, after death from fe-

ver at least falls not under the dominion of the atmospheric temperature, in general, for a period more or less prolonged; on the contrary it augments. This fact appears conclusive against the exclusive respiratory or chemical origin of animal heat. Chemistry teaches, as it appears to me, a very different doctrine from that which makes the lungs a heating furnace—the calorific focus of the whole body. Ought not the abundance of water and carbon which take the gaseous form in the respiratory act, to cause a perpetual refrigeration to go on in the lungs during life? Transpiration by the skin, or evaporation, performs a similar function. Both these organs may act too much or too little; they may refrigerate too far below the standard of health, or they may fail to reduce a morbid heat when once kindled up. Vitalism presents antagonistic barriers more or less effectual to these functional deviations. Cutaneous and pulmonary transpiration, chemistry and vitality, may thus combine, during life, to lessen the most intense morbid heat of fever, as well as in cases of external heat. But in the moment of death, this triune coalition is broken—the vital forces are scattered—cutaneous and pulmonary refrigeration is overthrown, and for an indefinite period, often short, the morbid heat, the true fever, un-repressed, reveals itself, until dissipated by the antagonism of the surrounding temperature. Heat and cold are no more produced, augmented, or diminished, except by those laws which govern inert matter alone.

Perspiration, a chemico-vital action necessary to life, showing itself often as sweat, but still oftener eluding our vision as an invisible vapor, appears active even in death: sometimes survives the death of other functions, as seen in transudations standing in drops upon the skin: the steam or vapor arising from the body, charged with the febrile odor, is obvious to the sense of smelling.

The following inquiry relates not to the physiology, pathology or therapeutics of temperature, but to its morbid and *post-mortem* history. It is not a little remarkable,

that the facts should be so few and so discrepant on this subject.

Will not the period arrive when the thermometer shall become the constant companion of the physician, and his guide as to certain remedial measures at the bed-side? Or is it a matter of indifference, in all diseases, whether the patient be plunged into a hot bath, or steamed nearly to scalding by the Thompsonian doctor, or macerated in cold water by means of cloths for hours, then plunged into a cold bath, to be followed with interminable douches and drinks? Must the patient during every walk, at every water-fall or pool, take a fresh bath, plunging and drinking like a fish, after the mode of the Silesian farmer, *Priessñitz*, and his many followers?

The Thompsonian declares that the only cure is heat; the Silesian, that the only cure is cold water? Why should a sick person, every where from 5° to 8° hotter than in health, be subjected to hot mustard baths, or another suffering from concentrations of internal heat, while the skin is in an algid collapse, be enveloped in the cold-water apparatus? Is there no criterion but caprice? If the physician has not the patience to call to his aid the thermometer in order to give precision to his prescriptions, let there be a Thermist or Themometer-man, or let the cupper add this instrument to his apparatus. At the present moment, while the cold-water treatment is spreading, it is the more necessary to seek precise knowledge upon this subject.

I now proceed to give an account of the circumstances attendant upon the following experiments:

Finding no thermometer exactly suited for my purpose I chose, as the least inconvenient, Reaumur's bath thermometer, having a double cylinder, one in the other; the outer one enclosing a paper scale. This, with all its tardiness, is the best I have yet seen; though I intend to direct the construction of two thermometers, so modified as to answer the purposes of the operator better than any I have used. It is evident that the common thermometer, with the metallic scale, is inapplicable; the stem is too fragile to be trusted to the

hand of a delirious patient; the bulb being globular, or irregular, or too small, cannot be grasped accurately, or confined by a bandage in the hand so as to exclude the air. A very large instrument, containing much quicksilver, robs the part to which it is applied of too much heat. For the hand, the popliteal region, and the cavities, a rod-shaped bulb, about two inches long—and for the surface of the forehead, trunk and thigh, a flattened and curved bulb, would be most convenient.

The calorific power, susceptibility, and conduction of the body differ greatly at different times, without any very appreciable changes in the circumstances. Sometimes my instrument attained its maximum in 5, sometimes in 10, sometimes in 15 minutes. On some occasions I refrigerated the instrument with ice-water, but this I found not only erroneous in its result by robbing the part of its natural heat, but it prolonged the experiment to an inconvenient extent. On the contrary the instrument ought to be kept nearly to the degree of the part, though this I often omitted. I have tested the instrument I used by thermometers made in Paris, in London, and in this country; by the published tables of Mr. Lillie of this city, without finding any discrepancy worthy of attention; also by boiling water, which agreed exactly in the last two of four trials: in the summer two experiments fell a little short of 80° R., 212° Fah.

Comparison of my observations with R.'s Ther. from Jan. 9th, 1844, to the 16th of the same month, with those referred to above, taken with Fah's. and published in the Republican newspaper for the same period.

NEW ORLEANS, LAT. 29° 57′.

Day of the month	8 A. M.		2 P. M.		8 P. M.	
Jan.	Fah.	Reau.	Fah.	Reau.	Fah.	Reau.
9	64	65	74	73	70	70½
10	70½	71	68	69	64½	64½
11	62	62½	64½	64½	63	65
12	69	70½	78	78	72	73
13	61	60	71		61½	59
14	62	62	79	77	71	74
15	72	73	64½	65¾	63	64½
16	63½	65	58	58	49½	50

Though the bath thermometer, (*thermométre pour les Bains*), reaches its maximum usually in 5 to 10 minutes, yet this is not always the case, especially in cool weather, and in some cases after appearing to be stationary a short time it begins to mount slowly a degree or even more: I have known it to decline as much in a few instances without any very evident cause.

The principal points of demonstration in the living body are the following: The hand, the axilla, the folds of the groin, the perineum, and the back part of the knee joint, when the leg is bent so that the heel shall press against the thigh. The horny induration of the skin of the hand incidental to laborers forms no objection if the instrument be held properly. It is a remarkable fact that the patient, even when more or less delirious, is apt to hold the instrument in a perfect manner; he grasps it a little too strongly; he fixes his attention upon it and drops his incoherent conversations. In raving delirium and deep coma the operator's fingers must be applied so as to close the patient's hand, or a bandage, or a handkerchief may be used for the same purpose. When the instrument is applied in the axilla the patient by lying on his side compresses it effectually excluding the air: nearly the same effects may be attained in the perineum, and in the scroto-inguinal region by crossing or flexing the thighs. The

popliteal region is one of the most convenient places, though unfortunately it did not occur to me in time to avail myself of it to any great extent: the patient lying on his back draws his heel against the buttock, or he may lie on his side and do the same, or the leg may be fixed against the thigh by carrying a single band around the ankle and upper part of the thigh. These points form for practical purposes a good, though not a perfect calorific circle, because the feet and head are excluded. The tongue so much relied on is for many reasons ineligible; breathing, moisture, evaporation modify the result; it is inconvenient and repulsive, and if the patient be delirious it is impossible.

In the dead subject these points, except the hand, are alike available, together with many others of greater value, as the rectum, vagina and artificial punctures, by which all the cavities may be explored with facility. These latter should be made no larger than is absolutely necessary to admit the instrument, say the third of an inch, and in such a manner as to exclude the air. This is easily done upon the chest, &c., by drawing the skin so that when punctured it shall act as a valve over the internal orifice. The highest portion of the pericardium and heart may be stabbed, so as to admit the instrument without exposure; the instrument may be forced into the parenchyma of the liver without any cutting in most cases.

For a considerable time I was at a loss how to reach the brain without exposure. All known modes of opening the brain are bad, nay sometimes murderous in a pathological sense; the saw cuts vessels in the dura mater or even deeper, causing sanguinous effusions and discolorations, discharging at the same time, the serosity in the arachnoidal sack; the hammer often produces the rupture of minute vessels at and under the point of the stroke. Even on the other side of the head, where the counter stroke (*contre-coup*), is received ecchymoses, and bloody infiltrations of the membranes of the brain may and often do thus happen.

At length it occurred to me that the orbit of the eye would afford every possible facility of reaching the brain without admitting the air. The tissues at the inner angle of the eye were divided—an iron punch as large as the thermometer was used to perforate the thin bones of the orbit which requires but little force—the thermometer passes readily, without even destroying the eye in most cases.

Though I have not restricted my observations to yellow fever, yet this is perhaps the best fundamental type, not only for the study of febrile pathology in general, but for the study of temperature, because it is the most acute fever known, and because the various tissues of the body are usually but little altered by remote secondary sub-lesions, of a general character, not directly connected with the disease. For example, the exterior of the body though much discolored, presents no bed sores, no emaciation—the muscles no paleness, softness, inelasticity—the cellular tissue no serosity—the organs no atrophy, &c. The original malady is not lost in the labyrinth of tedious, transforming, secondary affections.

The external caloricity of yellow fever, is, in the living body, usually greatest in its primary, less in its middle, and least in its closing stages, at such points of demonstration as are most easy of access, though these variations may or may not prevail in the central organs. These propositions will be proved hereafter.

With a zeal deserving all commendation experimenters have sacrificed hecatombs of the inferior animals. Scorning to retreat into the mazes of an *unexplained vitalism* for physiological and pathological explanations, they have boldly appealed to the physical sciences, to vivisections, and to diseased conditions artificially produced, for the establishment of the principles which govern the living body in a healthy and morbid state. Even when they fail in these difficult enterprises, they can say as a royal but defeated soldier said after an unfortunate battle—"we have lost all but our honor."

Of the essential nature of an isolated vitality we know no-

thing. Of its material manifestations we know something, but that something is modified by those laws which govern dead or inert matter, presenting a very complex combination which it is difficult to analyse so as to show which is strictly vital, and which exclusively physical.

But in these crusades against vital explanations, at the head of which stands that veteran of vivisectors, MAGENDIE, is there not danger of running into the opposite extreme? Is not an experiment, when modified by the agonies of mortal vivisection, or a fatal poison introduced into the blood-vessels, more or less equivocal, unsatisfactory, nay fallacious, in its application to a natural disease, or a physiological action, or any law of natural philosophy? It is but too much like that judicial proof, in the criminal jurisprudence of a period not long since passed, called THE TORTURE, consisting of screws, wedges, wheels, pullies, dislocations, fractures, burnings, drawings, and quarterings, so contrived as to extract evidence, by which the victim sometimes confessed not only the truth, but a good deal more, accusing himself of sorcery, witchcraft, and other supernatural and impossible misdemeanors?

Surgery has taken advantage of this mode of inquiry, and with the best results. A better example could not be referred to than that recently given to the world by Professor Gross in his experimental and critical "Inquiry into the Nature and Treatment of Wounds of the Intestines." (Western Jour. Med., 1843). But the *proof by the torture* in physiology and pathology must not be too much relied on, even when applied by such an operator as the distinguished MAGENDIE. Dogs are available in surgery, but except hydrophobia they do not suffer much in common with humanity, as fevers, &c. Now this cannot be applied to the mode of proceeding I have adopted in taking the temperature as soon as sensation ceases. If the thigh be 113° sometime, say one to three hours after death, what may not have been the heat of the central organs throughout the whole malady? The greatest objection which theorists can bring against this mode of study-

ing fever in its literal sense, immediately after apparent death, is the fact, or supposed fact, that the heat, morbid and healthy, must cease along with the action of the heart, lungs, and senses. Though these may die simultaneously in a few cases, yet such is not the fact generally. But the objection shows the importance of the inquiry, since it implies that however great the *post-mortem* fever may be, the *ante-mortem* fever must have been greater, and if so, pathologists have greatly underrated the intensity of febrile heat. This mode may have its modifying circumstances too, but they are natural, not artificial.

In the history of the progress ot the medical sciences, and particularly of physiological experimenting, animal temperature has a conspicuous place: this is a salient point in Baron Cuvier's celebrated work (*Hist. des Prog. des Scien. Nat.*) In almost every weekly meeting of the French Academy of Science, this is a prominent theme, as may be seen in the ponderous quarto tomes (*Comptes Rendus*), annually published by that learned institution. Among its members, Becquerel and Breschet have distinguished themselves by researches upon this subject.

The healthy temperature is a matter of the utmost importance in determining what may be regarded as morbid heat Broussais says, "the observing physician never will attempt to investigate morbid affections except by the lights of physiology" (Chron. Phleg. v. 2, p. 10). It may be well to examine briefly what the authorities say on these topics. Becquerel and Breschet represent the heat of the interior of the body to be 98.6° Fah. (Compt. Ren. tom. 6, p. 438)—Fordyce 97°, (on Fevers)—Müller, (Phys.) 100⅝° to 101¼°—Dr. Beaumont, the best authority on the temperature of the stomach, says it gives an average of 100°, (Experiments on Martin). Copeland fixes human temperature from 96° to 100°, (Dict., art., cold). Müller says that the temperature is lower, the farther removed the point is from the centre—axilla 98°; loins 96½°; thigh 94°; leg 93° or 91°. Again, mouth and rectum 97.7° to 98.6°: he thinks there must be some error in several

experiments of Dr. Jno. Davy, in which Dr. D. found the heat somewhat higher in the rectum than in the brain, (Phys. p. 94). Magendie (Phys. by Prof. Reveré) lays down the same doctrine: "the chest is the centre of animal heat, which there approaches 104°, while the limbs are 88° or 90°" (p. 94). Again: "those parts which are most distant from the heart or receive less blood are colder—the limbs are colder than the trunk," (Edit. 1844, p. 448). Prof. M. Edwards (Anat. and Phys., p. 154), holds the same doctrine. Now, it will be seen that febrile caloricity is not distributed, at least in the dead body, according to these laws, until a certain period after death, the period of refrigeration.

Whether morbid heat be simply an augmentation of animal heat, or some deleterious combination of it with solar and terrestrial caloric, latent and free, is foreign to our present purpose. It will be necessary to take a rapid glance at its character, in the only point of view in which it has been contemplated by authors with some attention, namely, in its range in the living body, principally during fevers. We shall perceive, hereafter, the strong and unexpected contrast afforded by the dead body.

Müller's estimate of the maximum morbid temperature is in some diseases as high as from 106° to 107° Fah. Horn, Fordyce, and Elliotson put the maximum in fever at 107°; Dunglison at 106°, (Phys. vol. 2, p. 200); Currie at 105°, one case only at 108°, (W. Philip, Fevers, vol. 1, p. 124); Colhoun at 105° (Greg. Prac., note, vol. 1, p. 45); Bouillaud says that the heat in typhoid varies from 33° to 41° cent. $91\frac{2}{3}$° to $105\frac{4}{5}$° Fah., being always more elevated than in health, (Dict. des Dict. de Méd., t. 8, p. 646, Paris, 1841). Magendie says that the temperature of the body never exceeds 40° cent., 104° Fah. (Lect. on the Blood, Bell's Edit. p. 236). Sir Astley Cooper, who quotes Jno. Hunter, denies that there is any increase of temperature in the interior of the body from internal inflammation, though upon the surface in external inflammation he admits a rise of 7°, that is as high as 90°, under the following circumstances:

"On the inside of the thigh, where a blister was applied, the thermometer rose to 90°, whilst the inside of the opposite thigh was only 83°; in another case it rose only 4°, but in every experiment the temperature was increased (Cooper's Lect., vol. 1, p. 22–'3). Hunter's opinion is based on operations upon brutes. Dr. Cheyne found the heat in fever to rise to 109° (Prof. Bartlett on Typhoid, p. 264). Prof. Watson limits febrile heat to 107° Fah. (Lect. Pract., p. 85, 1844).

The great influence of moderately prolonged cold upon the human body has been but little studied and less understood. Dr. Dunglison considers it as proved, that exposure to cold is incapable of depressing the temperature of the system lower than about 15° beneath the natural standard." (Phys. vol. 2, p. 195). When the whole body sinks to 78° or 79° death takes place: (ib. p. 213). M. Laurent says the same, though he places the vital heat unusually low in the following passage:

"Lorsque la soustraction de la chaleur du corps humain est trop brusque et trop continue, sa température vital habituelle, qui est de 32° C. (87.6° Fah.), descend à 26° (67.8° Fah). Alors se manifeste le besoin d'un sommeil invincible; c'est la torpeur ou l'engourdissment, précurseur d'une mort produite, suivant M. Chaussat, par l'epuisement des forces nerveuses, et probablement aussi par l'action direct du froid sur le sang, qui se coagule dans les vaisseaux."—(Dict. de la Conversat., vol. 12, p. 345, Paris 1834).

Dr. Currie found the temperature of a man plunged into sea-water at 44° sink, in the course of a minute and a half after immersion, from 98° to 87°; and in other experiments as low as 85°, but never lower than 83°. It was always found, however, that in a few minutes, the heat approached its previous elevation. Similar experiments have been performed on other warm blooded animals. (Ibid. p. 191).

The following experiments, made with much care and copied without any picking or selection, appear so far as they go to overthrow these conclusions. Observations more nu-

merous, and not confined to a single person, might be more satisfactory.

I may here remark, that while sitting in a room artificially warmed the hand holding the instrument was always turned from the fire, and rested upon a table covered with a woolen cloth. During the experiments the hand was never opened, the temperature was usually noted every minute, or every five minutes, though not always so mentioned in this paper, from a wish to be brief in details.

Jan. 16th, 7 A.M.—Room 65¾°; experiments 1 hour in bed; crossing the thighs 97¼°; perineum and scrotum 100°; pressing the sole of the foot against the internal maleolus 97¼°; axilla 100°; bend of the elbow 98°; left hand 98°. Left the bed, put on no coat, in 30′ the hand gave only 90¼°.

3¼ P. M. Room 68°, caloricity of the left hand, after a trial of 35 minutes, 98°; water at 61½° was applied repeatedly to the forehead for 37 minutes; during this time the heat of the hand fell 8°; the person well clothed. There can be no doubt that here the whole system was cooled 8°; the face became pale, afterwards flushed.

Jan. 17, 6¼ A. M.. Bed-room 46°; left hand not covered by the bed-clothes, in 23 minutes gave 92°; leaving the bed, 8 minutes, without dressing to 85°; partly dressed, 20 minutes, 80°. In a room with a fire at 59°, in 15 minutes, 75° (here a slight exposure to a moderate cold caused a fall of 17°); went into the open air at 46°; water at 38° was applied to the face and both arms at intervals for 11 minutes, the hand fell to 72°; breakfasted 15 minutes, repeating the cold occasionally, 70°; went into the room where the fire was, as above, 15 minutes declined to 67°! At 10 A. M., the left hand was 96°, clothed: room 66°, good fire. Rolled up the cuff, applied water at about 44° to the wrist with a sponge, &c., at intervals; in 40 minutes the heat fell to 80°, in 15 minutes to 74½°; cold now applied to the forehead only, 10 minutes, 70½°; cold now withdrawn; sat by the fire 15 min-

utes; hand 68°; 15 minutes 69°; 10 minutes 81°; 15 minutes 93°; 30 minutes 98°; 10 minutes 99°.

The refrigeration progressed as long as the experiments lasted: in the first case depressing the temperature, in 1 hour 24 minutes, from 92 to 67°, a difference of 25°; in the last case, occupying nearly the same length of time, the fall was 28°; in 15 minutes after the withdrawal of the cold, aided by a comfortable fire, the hand was still 3° below the point of departure, but in 40 minutes more rose 3° above it.

Jan. 18th, noon. Room 65¾°; coat off, caloricity of the left hand 97¼°; about 12 lbs. of water at 50° used for a foot bath; 5 minutes while undressing the hand fell to 95°; 5 minutes while using the foot bath, to 90½°; 15 minutes while exposed to the air, to 89°; 5 minutes without coat, to 88°.

Jan. 19th, 6 A. M. Room 54½°; caloricity of the left hand in bed 100°; arose, dressed partially, in 25 minutes, 90½°; applied water at 53° to the forehead, face, and opposite hand at intervals; sitting in a room at 62¼ deg., the back towards the fire, in 48 minutes the heat fell to 83 deg., and remained stationary 10 minutes, as long as the experiment lasted. No cold was applied to the left arm, which was clothed as usual, except the coat. The refrigeration was through the right hand and forehead, the instrument in the left hand, as in all the other experiments, was not changed after leaving bed.

9 P. M. Room 70 deg.; caloricity of the left hand 99 deg.; removed coat, vest, cravat, opened shirt collar, and in 15 minutes the heat fell to 94 deg.

Jan. 20th, 6 A. M. Bed-room 63¼ deg.; in bed, left hand uncovered 15 minutes 99 deg.; axilla 10 minutes 99½ deg.; inner and lower portion of the thighs 10 minutes 98½ deg.; groin, flexing the thigh upon the abdomen 5 minutes 101 deg.; popliteal region 5 minutes nearly 99 deg. Dressed, except coat and vest, 10 minutes 92 deg.; about 4 lbs. water at 63½ deg., applied at intervals with the right hand to the forehead and face, in 40 minutes the left hand declined to 83¾ deg., and was still falling when the experiment ended.

12 M. The caloricity of my left hand being 99 deg., the

clothes on, sitting by a good fire, the room 68 deg., the right hand and wrist were immersed in one gallon of water at 63½ deg.; in 25 minutes the left hand fell to 97 deg.; in 15 minutes to 93 deg.; (cold being also applied to the forehead several times). The right hand now wiped dry received the thermometer at 93 deg.; in 10 minutes the mercury stood at 73 deg.; in 5 minutes rose to 74 deg.

Jan. 21st, 5 A. M. Room 68°; in bed, hand exposed, 10 minutes and 5 minutes, each observation gave 98½°; popliteal region 8 minutes 100 deg.; perineum 5 minutes 101 deg.; groin 5 minutes 100 deg.; elbow, at the fold, 5 minutes 99 deg.; left hand 5 minutes 100 deg.; instep and sole 99 deg.; by increasing the bed-clothes the left hand gave in 8 minutes 101 deg. Left the bed and sponged at intervals with 1 lb. water at 65¾ deg., in 15 minutes the hand was 97 deg.; friction with a towel 5 minutes, 95 deg.; 5 minutes while dressing 94½ deg.; 5 minutes 93 deg.; 10 minutes stationary and then began to rise. In 15 minutes the axilla was 99 deg.

Jan. 22d, 6 A. M. Room 68 deg.; perineum, groin, popliteal, and hand, each, 100 deg.; thighs, instep and sole 99 deg.; while dressing, and after, the left hand fell in 15 minutes to 97½ deg.; in 27 minutes (occasionally applying water at 68 deg. to the forehead) it gave 92 deg.

10 A. M. Air 68 deg.; sat in the open air of a porch after walking several squares, the weather growing warmer 1 deg. per hour, in 65 minutes the hand fell to 78 deg., and was still declining, being then 22 deg. less than when in bed 5 hours before.

It will be seen by some of the preceding experiments, that cold air and cold water even partially applied, in rooms with and without fire, cause a reduction of the temperature sometimes 33 or 34 deg., below the natural heat; this depressed temperature so far from disappearing in a few minutes continues for an indefinite period, probably involving the whole system as well as the accessible points upon the surface, as appears, perhaps, analogically during refrigeration from applying cold to the forehead, opposite arm, and to the

feet while the rest of the body may be clothed comfortably. I felt no injurious effects from these refrigerations except, perhaps, a boil just above the knee. As hydropathists ascribe these affections, or at least eruptions, to cold applications, and as I have been entirely exempt from them heretofore, I think it proper to mention this fact. There can be no doubt that even a moderate cold steadily applied will produce a great and long-continued reduction of temperature, extending to the whole system, a fact, the pathological and therapeutic value of which, must sooner or later be appreciated in calorific excitements, irritations, congestions, and inflammations.

Magendie, with but little charity to vitalists, refers animal heat wholly to chemical changes in respiration, and says "that the blood in the living vessels is, in truth, almost as directly influenced by the temperature of the atmosphere as the mercury in the barometer."* (Lect. on the blood, p. 46). Without by any means adopting this conclusion to the fullest extent, I am inclined to think that the calorific oscillations of the body follow those of the surrounding media to a much greater extent than is generally supposed, and that in morbid augmentations of heat anti-calorifics may be so applied as to refrigerate with more or less accuracy and advantage down to the healthy standard.

And though our facts are too scanty and inaccurate to enable us to generalize with advantage, in all cases, yet I am far from thinking that the student of medicine will regard this subject as one merely speculative and devoid of useful applications.

Dr. Johnson (Med. Chir. Rev., p. 479, Oct., 1843), says, "It is now generally admitted that the temperature of animals derives its origin from a living principle; this principle, Prof. C.

*Chaussier considers *caloricity* to be "a primary vital property, ceasing at death—augmenting with every cause that excites the vital activity." (Dunglison's Phys., v. 2, p. 201.

Caldwell (N. York Jour. Med., Jan. 1844, p. 51), "believes to be a specific kind of *imponderable matter*, as indispensable to vitality as carbon is to carbonic acid. The *materia vitae* is an essential element of living organized matter." It will be as difficult to account for the increase of heat after death upon this principle, as upon those principles advanced by Liebig, as respiration, digestion, &c.

Dr. Double, of France, and some others, say that the animal heat is depressed below the ordinary standard during sleep and in the morning. This latter so far as I have experimented is not accurate, unless by morning we understand the next hour after rising from bed. *A priori*, it might be expected that caloricity would accumulate in the body while lying enveloped in non-conductors, as blankets, and the motionless air, almost hermetically sealed by the bed-cloths during a winter's night. And such appears to be the fact. I have already offered several observations, much abridged, made in bed with both Fahrenheit's and Rèaumur's thermometers, showing the caloricity of the body under these circumstances. It appears from these experiments and the following that in 9 observations, made in bed, upon the hand, lasting a quarter of an hour each, on 11 consecutive days in January, the minimum was 92 deg., the maximum 100 deg., the average about 98½ deg., very nearly the same as the elbow, ankle, sole, instep, and thighs, the axilla being about 1 deg. higher; the perineal, scrotal, inguinal, and popliteal regions, from 99 to 101 deg.,—averaging, in 10 observations, 100½ deg.

Jan. 23d, 6½ A. M. Room 74 deg., in bed; hand, instep, sole, ankle, lower portion of the thighs, axillary, inguinal, perineal and popliteal regions, each 100 deg. At 9½ A. M., room 71 deg.; hand in 20 minutes gave 88½ deg.; at 11 A. M., room, 72 deg., hand in 21 minutes gave 95 deg.; at 9 P. M., room 75 deg., the hand in 15 minutes gave 99 deg.; the groin and axilla the same.

Jan. 24th, 7 A. M. Room 72 deg.; in bed, hand and axilla 100 deg.; groin, instep, thighs, elbow, and tongue, 98 deg.

each. At 9 A. M., room 74 deg.; hand in 15 minutes 96 deg. The maximum temperature of the room in which the experiments took place was 77 deg., the minimum 46 deg., the average about 65 deg.

I now offer a table, choosing 10 consecutive days, in which the records have been kept with the greatest accuracy, and with the fewest interruptions, showing the caloricity of the hand in the morning from 7 to 10; at noon, at 3 and at 9 P. M., with the temperature of the room, and that of the open air. During this period few if any appreciable circumstances, excepting those which are recorded, intervened to modify the results compared with each other. The weather was very cloudy, and the rains frequent and copious. The minimum temperature was 39½ deg., the maximum 79½ deg, the winds variable, with occasional thunder; fogs prevailed to an unusual extent.

OBSERVATIONS ON THE CALORICITY OF THE HAND.

January.	7 to 10 A. M.		M.		3, P. M.		9, P. M.		Weather, &c.
	Temperature of the room.	Caloricity of the hand in 15 min.	Temperature of the room.	Caloricity of the hand in 15 min.	Temperature of the room.	Caloricity of the hand in 15 min.	Temperature of the room.	Caloricity of the hand in 15 min.	
7	61	84	68	100	67	100			Fog—rain.
8	63½	82½				96	70	97½	Rain.
9	63½	90	69	96	70½	96	74½	99½	Foggy.
10	70½	94½	74½	91½	75½	90½	74½	98½	Rain.
11	68	94			71½		74½	98½	Rain.
12	70½	92	74½	100	74½	100	74½	98½	Cloudy—rain.
13	70½	88½					72½	98½	Light clouds.
14		94	73½	100		100	77	100	Cloudy—mosquitoes.
15	73½	94	74	99		99	74½	100	Rain—thunder.
16	72	92	72½	97½	71½	97½	72½	99½	Fog—rain—thunder—mosquitoes.

This table affords upon analysis the following results:

Average of the morning, from 7 to 10 o'clock, - 90.15°
Average at noon, - - - - - - - - 97.71°
Average at 3 P. M., - - - - - - - 97.15°
Average at 9 P. M., - - - - - - - 99.00°
Average at 6 A. M., in bed, - - - - - 98.45°

I copy the following data on the caloricity of the hand at about 9 P. M., commencing at the termination of the preced-

ing table, making a series of nineteen consecutive days, affording an average with a fraction ($\frac{8}{9}$°) over the preceding, but confirming the general result in a striking manner. Each observation lasted at least a quarter of an hour, and was noted with all possible exactitude.

It will be seen that the average caloricity of the hand in a room with a good fire at 9 P. M., does not differ materially from the average in bed, in the morning at 6 A. M. in a room without fire, and that in a few hours after leaving bed the temperature declines about 9°, but rises again by noon to 97.71°, rather declining than augmenting at 3 P. M.; at 9 P. M. it rises about 2° more.

CALORICITY OF THE HAND AT ABOUT NINE P. M.

9 P. M.			
Jan., 1844.	Hand—fifteen minutes.	Temperature of the room.	WEATHER, &c.
17	98½	65¾	Clear.
18	97½	68	Clear.
19	98½	70	Light clouds.
20	98	72½	Fog—rain.
21*	100	72½	Fogs—clouds—mosquitoes.
22	99	74½	Cloudy—mosquitoes.
23	99	75½	Clouds—mosquitoes.
24	96½	74½	Thin clouds—mosquitoes.

These imperfect statistics of caloricity constitute only a

* In New Orleans the minimum temperature of the 21st January was 50½°, the maximum 75½°, while at Montpelier, Vermont, the mercury fell, according to the Montpelier Watchman, to 40° below zero: a difference of more than 90 degrees. On the 6th January the mercury, near Montreal, was at 40° below zero, while at 8 o'clock at night the mercury was 94° higher at New Orleans. On the 12th January the mercury was reported to be 12° below 0 at Quebec, while at New Orleans, at 8 P. M., the mercury stood at 72½ above 0, or 84½° higher

part of my observations on this subject; they have been made on but a single person, and are, I admit, too scanty for safe conclusions. My observations upon morbid and post mortem caloricity are of a very different character, occupying several months of arduous investigation on many different persons, living and dead.

The hard working student will soon find after bidding adieu to the lecture rooms of his teachers that much is unknown, much unsettled, upon many of the simplest points in physiology. Even the temperature of the hand is involved in discrepancies so numerous as to show the imperfections of that science.

Much attention has been bestowed upon Meteorology, particularly by the learned Dr. Samuel Forry, whose work stands in our country without a rival. Let the same pains be taken to ascertain the laws of human temperature, healthy and morbid, at different periods of the seasons and of the day—and in different maladies in all their stages when modified and unmodified by remedial agents, and in all accessible points, and the greatest advantages will probably result.*

This imperfection in the physiology and pathology of animal caloricity, is, unfortunately for the student, but too well expressed in the therapeutics of heat, as laid down by the most eminent authors. Cruveilhier gives *enemata* in cholera, at 36°, Réau.=113° Fah., (*Anat. Path. livr.* XIV.) In the *Dict. des Scien. Méd.*, under the head *Du bain d'eau trés chaude* it is said: *il est trés chaud vers* 34° *R.*, nearly 109° F. Under the same terms, Prof. Hatin, of Paris, (*Méd. Opérat.* p. 73,) gives the hot bath at the temperature of 36° to 40° R.,—113°

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* The difficulty, perhaps impossibility, of tracing any absolute connexion between the meteorology of the seasons and their epidemics, is set forth in the following passage:

"Pendant 10 années consécutives le Rapporteur de la Commission a publié trimestre par trimestre; l'histoire des maladies regnantes á Paris rapprochées des caracteres des saisons dominantes: il doit á la vèrité de déclarer que si ce travail ne lui a que peu serie pour remonter aux causes des grandes épedémies, il lui a éte très utile pour le divageur dans ses exercises cliniques.—*Comptes Rendus, tome 9im. p.* 515; 1839 *q. Rapport par M. M. Arago et Double.*

to 122° Fah. Yet, Laurent, (*Dict. de la conversat.* v. 12, p. 345, Paris, 1834,) says that a temperature of 104° Fah. can be supported only a few moments without danger: "L'application des corps solides chauffés jusqu'—40° cent. (104° F.) ne peut être supportée quelques instants sans danger." Dr. J. Bell fixes the hot bath at and above 98°; at that point the line of agreeable warmth is past. (*Baths and Min. Wat.*) De La Roche could not support above ten minutes and a half a *vapor bath*, which at first at 96.5° Fah., rose in eight minutes to 124.45°, and afterwards fell one degree. Berger was obliged in 12½ minutes to come out of a vapor bath, the temperature of which had risen from 106.25° Fah. to 128.75°. He was weak, and tottered on his legs, and was affected with vertigo.

In water a still lower temperature becomes insupportable. Lemonnier, being at Bareges, plunged into the hottest spring, which was 113° Fah. He could not remain in it above eight minutes. Violent agitation and giddiness forced him out. (Trans. Jour. Med., v. 9, p. 547). Let these facts be borne in mind. We shall see in the thigh a *post-mortem* heat which is here pronounced insupportable even for a few minutes.

Copeland (Dict Med., art. Cold), says, that man cannot exist for any considerable time in a mean range of temperature above that of his own body. In no part of the globe is the mean annual range of atmospheric heat within twelve degrees so great as that of the living frame.

Morbid caloricity it would seem may augment to such a degree as to cause the combustion of the body. This curious, and apparently well authenticated malady is, in some cases, not suddenly fatal, being local or partial in its action, as was the case with the Priest Bertholi, who lingered to the fourth day. A considerable number of fatal cases of spontaneous combustion have been reported by the physicians and by the judicial officers of different nations, as may be seen in the periodicals and medical encyclopedias. Prof. Short, of Louisville, Ky., reported a case a few years since in the Trans. Med. Jour., v. 3, p. 142. Partington, in his British Ency.,

(London, 1835), v. 1, p. 346 *et. seq.*, reports many: among them, the cases of the Countess Cornelia Bandini, Grace Pitt, Mary Clues, Jean Millet's wife, Mary Jauffret, widow of Nicholas Gravier, Mdlle Thaurs, a woman in Massachusetts, (16th March, 1802), a case from the Transac. Soc. Copenhagen, with other circumstantial histories.

If we admit the possibility of open combustion in the living body, can we hesitate to allow the possibility of an imperfect, smouldering, semi-combustion, or, at the least, a morbid heat, in the tissues during intense fevers? Magendie, not less distinguished for his physiological researches, than for his bitter denunciations of pathology, "that science which," according to him, "does not yet even exist," asks with apparent triumph, "what sense, in truth, is there in applying the word inflammation to our organs? Do our tissues really take fire? I confess I know of no example of such a phenomenon. When the blood rushes to a part in abundance, a certain rise of temperature, no doubt, occasionally follows; but it only reaches but a few degrees above the normal standard of the organ and never exceeds that of the blood in the left ventricle." (Lect. on the Blood, p. 32.) Now, as he refers heat solely to the chemistry of respiration which raises the blood only 1°, the left ventricle is therefore only 1° hotter than other parts. (Vide Phys).

At one moment Magendie declares that the temperature of the body depends upon the passage of the blood through the tissues, and at the next, he ascribes the heat in inflammation "to the accumulation or arrestation of the blood in the part!" (p. 25). Plain contradiction! So of the lungs. They make the heat, and yet they make the cold too, whenever it is necessary, as when a man enters a red-hot furnace. He expressly says that they are "an admirable cooling apparatus," and yet in his Physiology he says they are "the centre from which animal heat is developed." The histories of morbid and post-mortem temperature, which will be given, will show whether these assertions are stronger proofs than facts them-

selves, even though unconnected with theoretical fortifi cations.

It is proper to state that no special theory of fever will be attempted in this paper. It is not pretended that mere heat is alone sufficient to explain all the phenomena of fever.

With respect to post-mortem fever, which is perhaps nearly uniform, to a greater or less degree, let it be observed that circumstances, not necessary to mention, often prevented me from ascertaining the febrile caloricity until after it had declined more or less, so that the body had already felt the influence of the surrounding media. The morbid caloric may in some instances flow from the centre outwardly for a time more or less prolonged. But when it begins to leave the limbs it falls with great rapidity under the dominion of the atmosphere: the centre then becomes comparatively much the hottest, until near the commencement of putrefaction, at which time the entire body nearly coincides with the atmospheric temperature. In rare cases, where much blood has been lost, especially by the lancet, the heat augments but little, scarcely as high as in health, though probably higher than it was some hours before death; in these cases, muscular contractility is usually feeble and transient; rigidity is tardy and imperfect.

The doctrine of a post-mostem fever, or morbid heat, if sustained by facts, deserves neither sarcasm nor ridicule. Will any one pretend that respiration, or arterial circulation, or the nervous system acts with increased power after death? Yet, theorists ascribe animal heat to one or all of them with the confidence of a mathematical truth, in defiance of the antagonism of facts. The admirable Bichat says: "To derive general principles from facts—who are we, that we should turn away from this path?"

Broussais, who upbraids the ancients for "considering fever as an unnatural heat, (Path., p. 110), seems to ascribe to its physiological action an omnipotent power. Caloric is the first and most important of all stimulants; if it ceases to animate the economy, others lose their influence over it; all the pre-

servation, recuperative, and sanative phenomena cease. Caloric brings into play the unknown power, which constructs the organs." (Prop. ii, iv, v, Path). Now, in his first pathological proposition, he says, "health is the regular, disease the irregular exercise of the functions," and, of course, any great irregularity in the calorific condition must constitute disease in the same degree.

Among the preceding authorities the discrepancies as to temperature are sufficiently discouraging, but many of them probably grow out of the fact that the exact modes of investigation have not been identical. In making an experiment, all the modifying circumstances, as well as each step of the operation, ought to be attended to and made known. For example, let us suppose that the air is 40°; the thermometer at this temperature is taken into the hand at 109°; or, suppose that it is introduced into the middle of the thigh at 113°: here the parts in contact with the thermometer are necessarily robbed of much heat; 69° to 73° must be given to the instrument to be replaced, slowly, by heat conducted from, perhaps, the whole mass of caloric. In the experiments upon post-mortem caloricity, I have generally guarded against such errors by taking sufficient time. I may have erred occasionally by neglecting to prolong the experiment sufficiently.

Some account of the circumstances under which this inquiry upon animal temperature began may not be improper. Although the heat of the dead often struck me as remarkable, yet I did not suppose that it increased after death, until, during the last year, I determined to turn my attention to the following question: What are the most certain signs of death? Among many things, heat presented itself as one element worthy of investigation. This inquiry became the more interesting in consequence of certain acts of the Board of Administrators of the Charity Hospital in the summer of the year 1843. Upon this subject a little digression may be proper. Among other things, a rule passed forbidding post-mortem examinations, until six hours after death. The Board consisted of distinguished citizens; fortunately for the cause

of science, they did not enforce this rule; neither the faculty nor the public seemed to think it necessary. The New Orleans public, ever charitable to the living, cares not to introduce, or patronise, absurd prejudices about the dead,—prejudices which elsewhere have trammeled the progress of the healing art. Common sense, in spite of any speculation, finds no difficulty in deciding that the fever subject, after undergoing the fatal symptoms, under the eyes of the physician and others—after ceasing to breathe, &c., is dead. Thought, sensation, pulsation, locomotion, every possible relation to the external universe, and existence itself, are no more. In swooning, asphyxia, hanging, drowning, epilepsy, &c., doubts may sometimes exist. If the living body be committed wholly to the charge of the physician, why not the dead?

The surgeon, who mutilates for the mere *eclat* incidental to operations,—the physician, who needlessly subjects his patient to hazardous medications,—the pathologist, who would proceed to *post-mortem examinations*, with even a doubt upon his mind whether the subject was dead, in the common acceptation of the term, would deserve the utmost execration of mankind.

The frightful stories of Bruhier, (*Dict. des Scien. Med.* t. 25, p. 174,) seem to have long terrified both the public and the faculty in the old world. He reports 180 cases of persons reputed dead, who were not so: 60 interred alive; 40 opened before death; 53 returned spontaneously to life, after having been laid out in their winding sheets; 72 reported dead, were alive. These, and similar statements, have caused some benevolent individuals to leave annual prizes to those who should discover the most certain signs of death, with a view to prevent premature interments.

The more this topic has been elaborated by learned men, the less unanimity appears to have resulted. The unlearned nurse readily recognizes the physiognomy, and other signs of death, though perhaps unable to describe them with certainty. No one, it is believed, after apparent death from fever, in New Orleans, has ever been known to return to life: this,

practically speaking, is death. The French Academy records a marvellous case, noticed by Baron Larrey, in which a French officer, (M. Morel,) then living, was taken for dead in two instances, and buried as such. "M. Julia Fontenelle transmet une observation tirée du cinquième volume de la clinique de M. Larrey et la quelle il résult qù un officier français (M. Morel) encore vivant á été doux fois enterré comme tel. (Com. Ren. T. 2, p. 257, Mai 1836.) The Academy occupies itself much upon this subject: it has been appointed to award (décerner) prizes in relation to its elucidation, but appears to incline to the test by putrefaction!

M. Donné, in a letter to the Academy upon the signs of death drawn from the alterations of the globules of the blood, remarks, that "tout en reconnaisant, que le signe le plus certain de la mort, le seul que soit á l'abri de toute erreur dans les cas douteux, est la putréfaction." (*Com. Rend.* T. 6. p. 345.)

Some of these *savans*, not satisfied with a delay of twenty-four hours as fixed by the French Code, wish the period protracted: "M. de Brière écrit relativement aux malheurs qui peuvent résulter des inhumations trop precipitées. Il désizerait que le *délai de quarante-huit heures*, dit-il, a lieu en Angleterre et Bavière, fut adopté en France." (*Ibid.*)

Lastly, a medical writer, in Paris, during the year 1843, insists on putrefaction,—greenness of the tissues, &c., as the only certain tests, requiring about three days! But in the steady cold of winter, this might require as many weeks before greenness, &c., would appear.

If putrefaction be regarded as the only certain test of death, then, adieu to all confidence in post mortem examinations, as the means of ascertaining morbid appearances and of guiding to sound pathological deductions. Magendie, who sometimes is quite skeptical, says, "I set but little value on minute examination of the traces left by disease upon organs, though that pursuit has been pompously styled pathological anatomy: are you not in truth convinced that the lesions found at our autopsies are frequently produced after death, and that conse-

quently the plan hitherto followed in such inquiries is fallacious, and can only lead to vague information and error?" (Blood, p. 276.)

The February No. of this Journal, for 1843, containing a part of my observations upon the fallacious results incidental to late dissections, was sent to one of the most illustrious pathologists in Europe, Louis, of Paris. In a letter which I had the honor to receive from him since, he speaks upon this subject in the most decided language. This testimony is not only of the greatest weight in itself, but displays a candor, a love of truth, which an author wholly influenced by sordid self-interest would neither feel nor exhibit, since some of M. L.'s own distinguished works have been based on dissections more or less tardy. Dr. Louis says:

"Au sujet de L'anatomie pathologique, vous avez fait sans doute ce qu aucun médicin nà fait jusqú ici; une il úa été donné à personne á part quelques circonstances infiniment rares, de faire des autopsies quelques minutes seulement après la mort, quand la roideur cadavérique (une des signes le plus certains de la mort) n'existe pas encore à beaucoup par; vous avez vous pu voir ce que peu de personnes ont vu, constater des lésions susceptibles de s'effaçer promptement; et si vous avez pu receuillir très en détail, et jusqu'à la dernière heure des malades, les symptomes qú ils eprouvés vous feriez une chose très utile à la science de publien ce que vous avez vu."*

From the above extract, it would seem that Dr. Louis regards cadaveric rigidity (*rigor mortis*) as one of the most certain signs of death.

At the present time, the medical faculty in New Orleans appear to be unanimous in the opinion that late dissections must

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* "As to the subject of pathological anatomy, you have done, without doubt, that which no other physician has done till now; for it has been given to no person, to make post mortem examinations a few minutes only after death, when cadaveric rigidity (one of the most certain signs of death,) exists as yet to no great degree. You have been able to see that which few persons have seen,—to establish lesions susceptible of changing quickly; and, if you have been able to collect in detail, and until the last hour of the patients, the symptoms which they have experienced, you will do a thing very useful to science to publish what you have seen."

lead to results more or less fallacious, and, some go so far as to declare that a dissection, after even six hours, is more likely to mislead than to instruct. New Orleans, happily, is free from those prejudices, which in some parts of the Union punish as a felony the taking of the dead for examination—a punishment seldom inflicted for stabbing, shooting, or otherwise slaying the living, in these days of legal ingenuity. At one of the first dissections (after the act of the board), where the body had been kept six hours, the medical gentlemen abandoned the examination, unfinished, on account of the obscurity cast on it by post-mortem discolorations; a learned anatomist, now no more, was present, and expressed the same views—this was Dr. HARLAN. A few weeks after, in the midst of the labors incidental to the epidemic yellow fever, he fell suddenly with apoplectic symptoms, and so little did *he* fear premature dissection, that he requested (as I was informed) that his body should be examined in ten minutes after death.

It was, therefore, during my researches upon the signs of death, (the results of which I may publish hereafter), that I accidentally ascertained the existence of a post-mortem fever, or caloricity. I then turned my attention to the calorific history of the living body, covering the whole ground from the second hour of the fever to the period of putrefaction. The symptoms and treatment of those who recovered, and of those who died, including post-mortem examinations, I will be obliged to omit and to restrict myself to temperature alone, hoping that these observations, however imperfect, will contribute something to fill up an evident gap in febrile pathology. Whether pathology shall settle down into solidism, or run into fluidism—whether it shall take the symptomatic or idiopathic, the chemical, mechanical, or modified vital form, one thing is certain, the *positive* alone should guide us. Caloric is the great motor of the universe. Its pathological relations, combinations, and deteriorations, solar, terrestrial and animal, ought to be studied in preference to hypothetical agents, unknown gases, or vital metaphysics. It is no aggression—no violation of the sanctuary of vitalism, to take from it any of

its supposed holy vessels, which may of right be claimed by the laws of simple physics or chemistry. It is often a clear gain to the cause of truth when any supposed vital law is shown to be identical with those of mechanics, hydrostatics, pneumatics, electricity, caloric, or chemistry.

As to the supposed good effects of febrile heat, compared with coolness of the skin, noticed by Dr. Chyene, (Bartlett's Typ. Fever, p. 264—'5), the circumstances, the stage of the disease, &c., are not given with sufficient particularity. Heat, like the blood, may have a congestive character; the skin may be colder than natural, while the heat is centralized even in algid cholera, in which the skin is icy, while the patient complains of the most intense burning heat inwardly. Prof. Cruveilhier found, when about to make his autopsies, in cholera subjects, that they were hotter (how much he does not say) than during life—"Froid beaucoup moins prononcé que pendant la vie." (Anat. Path. Livr. xiv. p. 26.) As illustrative of this subject, and the origin of this investigation as mentioned above, I will here recount a part of my observations, in the first case in which I took the post-mortem temperature. The heat, in this case, was less than in many others—the history is less perfect—no positive thermometrical data had been recorded before death. The skin, during the two last days of the malady, was so remarkably cold, that some medical gentlemen regarded the case as congestive, rather than yellow fever; but the history, as well as the autopsy, fully satisfied me that it was the latter. The stomach contained 12 ounces of black vomit.

A native of the United States, born about the 40th degree N. latitude, aged 25, late a steamboat man in southern Louisiana, resident in New Orleans two weeks; died of yellow fever Aug. 7th, 11 A. M., 1843, after an illness of four days and a half.

Air of the dead house 83°. Experiments began 20 minutes after death: axilla, 5′ 108°; under the tongue, 5′ 103°; epigastrium, 5′ 108°; 5′ same; perineum simply closing the limbs, 10′ 104°; centre of the thigh, 10′ 109°; tongue, 10′

100°; epigastrium, 5′ 109°; axilla, 5′ 104°; thigh, 5′, old incision which had been made too large, admitting the air freely, 107°; 3 successive obs. in different parts of the abdominal cavity, each lasting 5′, gave nearly 107°. Experiments now ceased 1 hour and 35 minutes; resumed 3 hours and 20 minutes after death. Dead house, 81°; epigast., 10′ 104°; outer side of the lungs, 10′ 103°; base of the right lung, 5′ 104°; between the liver and diaphragm, 4 hours after death, 104°. Temperature of the brain not taken. The body rested on a stone floor, which was placed directly on the ground—no cover but a linen sheet, which was removed when the experiments began; the room much ventilated—brisk winds, with heavy showers of rain, during the observations.

In this case the coolness so remarkable to the touch disappeared in 15 minutes after death. The axilla at 25′, and the epigastrium at 40′, both gave 108°, while the thigh, 1 hour after death, gave 109°; in 1 hour 15 minutes the epigastrium attained the same elevation as the thigh. This, the culminating era of the morbid caloricity, was followed by a gradual but slow declination, differing much from simple atmospheric refrigeration, inasmuch as the thigh and the epigastrium, and other abdominal regions, after trials for twenty-five minutes, gave exactly the same temperature. Refrigeration from the surrounding *media* progresses from the circumference to the centre, until the putrefactive period, when the air, the surface, and the centres, coincide very nearly. The body exposed to a hurried, brisk wind, at 81°, for a period of four hours, gave in the centres, 104°—that is, 4 or 5° beyond the healthy heat.

I have already copied from my MS. volumes, 162 calorific histories, which, with a few more made during the present winter, (1843—'4), will complete the series. I own I am not without some fears of making a premature publication, as this inquiry has occupied me for a much shorter period than any other great branch of febrile pathology. And, if one so humble might be allowed to apply to his own case, the words of so distinguished a man as Sir Benj. Brodie, I would say, "that

one principal result of my labors has been to convince me that life is not long enough for these difficult researches; that the utmost which can be accomplished by the zeal and industry of an individual is to make such progress in the study of pathology as may enable those who may come after him to carry their inquiries farther; and that the expectations of any one who aims at higher objects than these must terminate in disappointment." (Am. Jour., Oct. 1843.)

Few, except those who have gone over the same ground, can imagine the labor and irksomeness of these dismal researches along the frontiers of death. Silent, alone, sitting for hours on a coffin, among dead bodies bearing on their saddened faces the impress of the last agony, watching the wanings of a lingering vitality and the steady advances of the great annihilator, decomposition, with scalpel, pencil, book, and thermometer, like Sterne's prisoner in the dungeon, who etched down with a nail his diurnal history—these are circumstances that fiction cannot heighten; pursuits that honest Charon, the ferryman to ghosts, upon the dark and polluted Styx, would scarcely undertake. The fabled shades, Sorrow, Fear, Sleep, Night, Sickness, and Death, and the Valley of tears, might very well be located in and round about hospitals and dead houses.* The moral associations they fix upon the minds of their inmates are often unfavorable in a medical point of view.

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*Eugene Sue, the celebrated novelist, in *The Mysteries of Paris*, has drawn a dark, but too true a picture, of the moral, mental, and medical influences which reign in the wards of a crowded hospital. The shame, disgust, and inconvenience, (especially to the female patient), incidental to interrogations and examinations, repeated at pleasure, by physicians and students, before company, by day and by night, have not been at all exaggerated: to these have been added, the fear of dissection after death,—a fear not the *less real* because it is *absurd*: "Ah! it is horrible! said Clèmence, shuddering with affright. One must come here [to the hospital] to know that there are, for the poor, misery and alarms even beyond the tomb." Sue makes his scientific Dr. Griffon too fond of experiments upon the poor,—too brutal in his speeches before his patients, upon the fine morbid specimens that their bodies will afford, and, in directing his student to cut the initials of his name upon the corpse of the actress in the presence of the sick, preparatory to dissection.

Romance, imagination, reason, nay, science itself, "serve but to light the troubled way," giving a greater force to the bitter realities, always transpiring before our eyes, in these institutions, and at the bed side. However wise it may be in the multitude to repel such ideas by gay illusions, the physician, from his avocations, cannot long enjoy them. He will often think in the following strain, with a veteran medical journalist—a passage, by the way, very much like one I have seen in some of Voltaire's works: "Man is the only animal in existence who knows or even thinks he must die. This piece of knowledge seems to be a necessary accompaniment of Reason, and no small drawback upon the pleasures of that boasted gift! It is a prescience which embitters a great portion of the life of man! On which side does happiness predominate? On that of man or that of beasts? Those who have lived longest in this world and seen most of human nature, will have little hesitation in casting the balance in favor of animals. The young and the sentimental will come to a different conclusion. The knowledge of literature, arts, sciences, so far as happiness is concerned, is rather a curse than a blessing." (Med. Chir. Rev., Jan. 1843). I make no apology for thus "heaving a moralizing," if not a scientific sigh, upon this subject—the affectation will be found on the side of levity and insensibility. But leaving the mental pathology, I will in the concluding part of this essay, confine myself to the physical, the positive alone. Here, if anywhere, the Genius of Pathology, like the dove which returned to the Ark, finds rest for the sole of her foot, and seeks among the dead that which may be useful to the living.

New Orleans, March 30th, 1844.

[TO BE CONTINUED.]

ART. II.—*A Case of angular Anchylosis of the Knee Joint, treated on Dr. J. R. Barton's plan by* PLATT BURR, M. D. Reported by ANDREW R. KILPATRICK, M. D., of Woodville, Mississippi.

Among the new operations in surgery, that of Dr. Barton, for *Anchylosis*, occupies a conspicuous place, and if that gentleman had done nothing more, this alone would have been sufficient to enrol his name with the worthies who preceded him, and hand it down to the latest posterity. Cases which were formerly abandoned as irremediable, and the subjects of which were suffered to drag out a miserable and helpless existence, or subjected to the remorseless quackery and torture of "*Bonesetters*," can now be relieved and placed in a situation comparatively easy and independent.

The following case occurred in the practice of my friend, Dr. Platt Burr, of Cheneyville, La., who has requested me to report it for him:

Sam, a negro man, æt. 40 years, of stout frame, and good general health, while engaged, on the 12th December, 1840, in hewing a log, accidentally let the broad axe slip, and the corner of it struck the left knee with considerable force, on the inner side, and penetrated the side of the head of the tibia close to the patella. The wound was not more than an inch long, and soon healed up, although there was slight pain in the part. By exposure and active exercise, the knee was swollen rapidly to a very large size, and that, together with the pain, disabled him for work and forced him to take his bed. Medical aid was called in and efforts were made to check and remove the pain and inflammation, but without success. The whole limb became enormously enlarged, suppuration came on, and a great quantity of pus was discharged at three several openings, above and below the knee. The purulent discharge ceased, the limb was reduced in size, the muscles were flaccid, and the skin was loose, dry and crusty, so much so that when rubbed or thumped it emitted a sound like that

of coarse brown paper or dry raw hide. The knee still continued unnaturally large, and the skin on it was tight and glossy. As he suffered less pain when the leg was flexed, he was permitted to keep it in that position so long that it became fixed; the synovial fluid and membranes were destroyed, the femur, tibia and patella all united firmly together as if they were a continuation of one bone, and from the firm adhesion which had taken place considerable force would have been required to disunite them. When he was seated no one could perceive that any deformity existed; but on his assuming the erect position, his leg and foot projected backwards at a right angle with the other leg. His master despaired of his ever being cured, or benefitted by any surgical assistance, and had concluded to apprentice him to a shoemaker that he might be of service to him in that way. Before acting on this determination, however, he requested Dr. Burr to examine him, when, from the appearance of the limb, the general health of the patient, and his robust constitution, he concluded he could perform Dr. Barton's operation with safety, and Mr. Brown, the master, consented to a trial of it, the patient himself being willing to submit to any thing which promised an amelioration of his condition.

After the patient was duly prepared to undergo the operation, Dr. Burr sent for me to be present and assist him; Dr. Ingersoll and several gentlemen of the vicinity were also present. The day was quite cold and raw. As before stated, the thigh was flaccid, skin loose, knee large, the patella projecting boldly out and adhering firmly to the condyles and tibia.

On the afternoon of the 8th December, 1841, being one year, wanting four days, from the time of the injury, the patient was placed on a table with his legs hanging down over the end, his body and arms being held by assistants. I attended to the parts to be operated on, adjusting the skin, &c. The first incision was made by commencing at a point opposite to the upper and anterior margin of the external

condyle of the femur, and passing obliquely upwards across the front of the thigh, terminated on the inner side. The second incision commenced also on the outer side, about three inches above the first, and passing obliquely downwards across the front of the thigh, terminated at the point of the other incision, thereby forming an acute angle. The integuments. the extensor muscles, part of the vastus externus and internus and the crureus were divided by these incisions. The triangular flap was then dissected up from the femur close to the condyles and the soft parts on either side were pressed down out of the way, so as to admit of the free use of the saw. The only knife employed in all the operation was the common scalpel.

The flap then being turned up and held out of the way, a common amputating saw was used, and by inclining it, a wedge-shaped piece of the femur was taken out, about two and a quarter inches at the base, and three lines at the apex. The femur was not completely divided by the saw, as was suggested by Dr. Barton, but about three lines were left undivided, which was fractured by forcibly drawing the leg back, and the spiculæ thereby formed answered the purpose admirably of keeping the extremities of the bone in their proper place; and moreover the danger of injuring the popliteal artery was thereby avoided.

The time required for the operation was about five minutes. There were three small arteries divided which required ligatures; when they were secured the flap was returned to its place, secured by a few sutures, the ends of the ligatures were brought out and fixed, and adhesive strips and light compress and bandages completed the dressing.

Before moving the patient from the table, the limb was placed at the same angle of flexion it was at before the operation, on a double-inclined plane similar to Amesbury's apparatus, with a moveable cross piece to regulate and fix its angularity, and a foot piece with a shoe attached to it. The plane was rendered comfortable by long bags of carded cotton, suited to the shape of the parts and so adjusted as to

prevent pressure or friction upon the popliteal region. The limb was kept in that angular position for some weeks, until it was thought the spiculæ and asperities of the bone were either absorbed or covered by deposite. The sutures and ligatures of the arteries were properly attended to and removed. Adhesion of the soft parts progressed rapidly and regularly to complete re-union, with little pain or trouble.

By means of the brace on the apparatus the limb was gradually straightened until brought very nearly straight, but agreeably to the suggestion of Dr. Barton, a very slight angularity was maintained intentionally, in order to prevent his heel, in walking, from striking against any obstacle or inequality which might be in the way. The double-inclined plane was then thrown aside and the limb placed in the ordinary straight box used in common fractures, where it was kept for better than three months, at the expiration of which time he was allowed to move about on a crutch, as the bones had knitted together pretty well.

In the month of June, 1842, he could walk about on his leg very well, even without the use of a staff, and in fact went to work. But on the 15th of July of the same year, in attempting to mount a ladder he missed his footing, and in the fall broke his leg again at the point of operation. As he had complained of his foot hurting in the instep, at the metatarsus and toes, especially when he walked much, and when standing on logs chopping, when it was reset the last time it was placed in the straight box without any angularity, being quite straight. No bad results followed this fracture, and in less than two months he was able to be up and about again, and could walk very well without crutch or staff. It has been thought by some who were acquainted with this case, that the adhesion of the bones was thereby rendered more firm. During the whole time his general health was unexceptionable.

On the 15th April, 1844, I saw Sam at his master, Mr.

W. R. Brown's, on Bayou Bœuf, Louisiana, busily engaged spading up the garden. He told me that he could hoe and chop with as much ease as he ever did; that ploughing was not irksome to him; and Mr. B. said he was nearly as serviceable as ever. There is no pain or swelling after a day's labor, but his limb appears as sound as ever.

May, 1844.

REVIEWS.

Art. III.—*A Treatise on the Nature, Causes, and Treatment of Erysipelas.* By Thomas Nunneley, Lecturer on Anatomy, Physiology, and Pathology, in the Leeds School of Medicine; Surgeon to the general Eye and Ear Infirmary; Honorary Secretary to the Philosophical and Literary Society, &c. &c. Philadelphia: Ed. Barrington & Geo. D. Haswell. 1vol. 12mo. pp. 235. 1844.

Our profession is under many obligations to Dr. Bell, of Philadelphia, whose judgment, independence and learning fit him very eminently for the editorial tripod, which he has occupied for many years. As a critic his decisions are entitled to high respect, and the works which have been re-published by his directions have been stamped by so much excellence, that it is a sufficient passport to public favor that a volume has appeared in the *Select Medical Library.* The work which stands at the head of this article has been published very opportunely. At a time when erysipelas is prevalent in many parts of the country, and in some has assumed a highly malignant form, a treatise describing all its varieties, and the best modes of treatment—in a word, a full and complete monograph on the subject—will be highly acceptable to the profession. Dr. Bell has judiciously added to the work of Nunneley an account of epidemic erysipelas, as this disease has exhibited itself in this country. This portion of the volume will be read with deep interest by all, who have not made themselves acquainted with the nature of the disease which has prevailed with great mortality, in certain localities, under the name of "*black tongue.*" But the work in

its entireness is one which will be accounted necessary to every physician's library. It is not our purpose to enter upon an extended review of it, but simply to notice such parts as it is supposed are especially interesting at this time.

Our author thinks the following affections may be grouped together, namely: erythema, eyrsipelas, diffuse inflammation, of the cellular membrane, puerperal fever, diffuse inflammation of the serous membranes, diffuse inflammation of the mucous membranes, arachnitis, diffuse phlebitis, and inflammation of the absorbents, all of which are treated of, to some extent, in this valuable work. The details under the various heads are curious and instructive, and those which relate to puerperal fever will be found exceedingly interesting. Among the inferences to be drawn from them is an important one, that the most serious consequences are apt to flow from a wound received on the hand or fingers in dissecting the body of a patient who has died of that complaint. Many cases are cited in which the pricking of the finger, in dissections of bodies affected with erysipelas, was followed by fatal disease. Most readers will be surprised to find puerperal fever and wounds of the dissecting room in the same class, and to see these grouped with the other forms of disease recited, but taking the facts stated by our author as true, we cannot see how his conclusions are to be resisted. We shall, however, pass from this question to matters of more practical moment.

Dr. Sutton's paper on epidemic erysipelas introduced into the volume by Dr. Bell, illustrates the extension of the disease to the mucous membranes. We quote the following from Dr. S.'s description of the complaint:

"This epidemic has assumed a variety of characters, often presenting a difference in different neighborhoods through which it passed. I have had an opportunity of becoming acquainted with the disease over a large section of country, having the most of the Wilmington practice to attend to, owing to the physician of that place having a severe attack of illness, during the time the disease was raging with the most violence; and from the intimate connection which appears to exist between the different characters of this disease, I have

considered the epidemic as an inflammatory disease, of a peculiar character. It attacks the mucous membrane of the respiratory passages; the tongue; the glands of the throat; the skin in the form of erysipelas; the lungs and thoracic viscera; the uterus, and its appendages, producing puerperal fever; as this last disease in several places, has also accompanied the epidemic. This disease, in every variety, has had a tendency to assume a typhoid grade of fever, after it had continued a few days.

"The following is a synopsis of the simptoms of this epidemic. When the throat was the part attacked, after the usual premonitory symptoms, which have been frequently mentioned, had continued for two or three days, the patient was generally seized with a chill, which lasted, in many cases, four or five hours; this was followed by a high fever, swelling of the tonsils, submaxillary, parotid, and lymphatic glands of the neck; neuralgic pains, darting over the side of the neck and head, frequently following the temporal artery; tongue, covered at first with a thick brown coat, soon became swollen and often very dark in the centre; deglutition frequently very difficult; pulse generally full, though easily compressed; skin at first hot and dry, becoming moist and continuing so after venesection. In the mild form of the disease these symptoms were frequently removed at once by an active antiphlogistic course of treatment. Sometimes the mild form had only the appearance of cynanche tonsillaris. But in the more malignant form, where the throat was affected, after the above symptoms had continued for two or three days, and sometimes from the very commencement, the pharynx became of a dark purple color; this color generally spread over the palate, tongue, and sides of the cheeks, the tongue becoming very much swollen, assuming a blackish-brown color; deglutition in many cases was almost impossible. In most of these cases an erysipelas would commence at the angle of the mouth, or nose, and spread over the face and head, with all the symptoms peculiar to that disease. The inflammation of the throat was seldom stationary; sometimes passing down the trachea, with symptoms resembling laryngitis, or cynanche trachealis, and at last assuming the symptoms of pneumonia. Sometimes this inflammation passed into the nostrils, and from them into the frontal sinuses; sometimes apparently into the antrum maxillary, but in nearly every case that I saw, the *throat became well, while the erysipelas was spreading over the skin.*

"Sometimes this disease appeared to commence in the fron

tal sinuses and antrum; large quantities of water would be discharged from the nose, a violent pain felt over the eyebrows, or one of the malar bones, the face becoming very much swollen, the swelling closing the eyelids. These symptoms generally continued until an erysipelas made its appearance, or there was a copious discharge of bloody mucus from the nose. In the case that I met with, the neck was enormously swollen, from the left ear down to the sternum, without any redness of the skin, or but little inflammation of the pharynx; this swelling rapidly subsided, and was followed by a profound coma that terminated in death. This disease seldom presented the putrid symptoms of *cynanche maligna* and in those cases that it did, I believe the cause might be traced to the imprudent use of mercury. In a number of cases that I met with, the inguinal glands were the seat of the disease, becoming very much inflamed, and an erysipelas first making its appearance there, and spreading over the abdomen."

Treatment.—Dr. Sutton used blood-letting from a large orifice, and the antiphlogistic treatment generally, bearing in mind the tendency of the disease to a typhoid character. Copious v. s. from a small orifice he thinks was injurious. He adds:

"When the throat was attacked, emetics, followed by mercurial cathartics, nauseants, blisters, liniments, and sinapisms to the throat, pediluvium, acidulated and pepper gargles, scarifying the tonsils, and when the throat was ulcerated, the application of a solution of nitrate of silver was the course generally adopted, and in a large number of cases the bleeding, the emetic, and mercurial cathartic cut short the disease at once. In administering mercury in this form of the disease, a few doses generally filled the indication, and, as I before mentioned, great caution was necessary; for wherever it produced its specific effect upon the mouth and salivary glands, I believe it was almost invariably attended by injurious consequences. When the erysipelas made its apperance upon the skin, it was treated according to the character that it assumed, and its accompanying fever. Alterative doses of calomel and ipecac, (carefully avoiding ptyalism), followed by saline cathartics, antimonial diaphoretics in the robust; wine whey, carbonate of ammonia, Dover's powder, in combination with calomel, followed by gentle laxatives, when the disease had assumed a typhoid character. As a local application to the

erysipelas, a solution of the sulphate of copper, and the sulphate of iron as has been highly recommended, appeared to produce good effects. However, in many cases, when the skin was not blistered, influenced by the resemblance the disease had to a burn, I was induced to try the spirits of turpentine, which I thought produced the very best effects."

In the stage of collapse, quinine is to be given, in conjunction with the diffusible stimuli. Opium and tartrate of antimony are prescribed in conditions where the brain is affected, attended with a low muttering delirium.

Our author discusses the treatment of erysipilas at great length. The authorities for and against the various plans of cure recommended in the disease are fully stated, by which the reader will be able to gather the views of all the schools on the subject. Some insist upon blood-letting to the exclusion of stimulants, and others upon stimulants to the exclusion of venesection, while a third class, without forbidding the use of the lancet, recommend the use of stimulants. Emetics are in the same predicament—extolled by some, and condemned by others. Our author inclines to their employment. Even purgatives have not been able to command the unanimous suffrage of the profession; but Dr. N. justly regards them as amongst the most valuable remedies we possess in the treatment of erysipelas. Preparations of mercury, diaphoretics, and diuretics, digitalis, colchicum, antimony, narcotics, turpentine, and camphor, are enumerated as among the general means of cure, to be prescribed according to the judgment of the practitioner. The local remedies recommended, are bleeding, by cups, leeches, punctures, and incisions, cold lotions, stimulants, farinaceous powders, warm fomentations, ointments, the actual cautery, and blisters, nitrate of silver, tincture of iodine, and bandages. The treatment applicable in the different varieties of the disease is given at the close of the work, and will be found sufficiently detailed. We must refer the reader to the treatise itself for particulars, which would extend our notice beyond the limits necessarily assigned to it.

Erysipilas is a frequent disease of hospitals. The atmosphere of such institutions becomes tainted at times, and patients introduced with other diseases are attacked, from slight causes, with erysipellatous inflammation. During the few last months we have been presented with some striking illustrations of this fact in the Louisville Marine Hospital, where erysipelas has been showing itself in the subjects of other complaints. Several cases appeared in February, and others have existed at different times since, the disease having been induced by trivial injuries of the skin. In one instance it followed the application of a blister to a syphilitic node on the shin, but was easily arrested by drawing a line around the inflamed spot with nitrate of silver. In a second case, it succeeded to a slight surgical operation on a young man, and in that case was attended by alarming constitutional symptoms, which were only subdued by the most energetic treatment. In a third, it supervened upon leech-bites, and terminated fatally. The subject was a young man, eighteen years of age, who was taken to the hospital on account of insanity. He was of a delicate constitution, which had suffered much from indigestion. Leeching having been practiced over the epigastrium, and again, in two days, on the spine, between the shoulders, erysipilas made its appearance at both places, and from the latter spread over the neck, and a portion of the scalp, extending to the cheek, and downwards half way the back, and proved fatal in eight days after it exhibited itself. The depletion by the leeches and purgatives, with the use of extract of hyosciamus and stramonium, had restored the patient to a sound mind before the erysipelas broke out. Delirium supervened upon the extension of the inflammation over the neck, and persisted as long as the young man lived. The nitrate of silver seemed to arrest the disease on the abdomen, when it first broke out, but did not appear to exert much influence upon it as it advanced along the neck towards the head. This caustic is the favorite remedy of our practitioners for limiting the disease, which it is found to do in many cases. The corrosive sublimate

we have also seen applied with decided advantage. With both, the object is to vesicate the skin in advance of the inflammation. The constitutional remedies have already been recited, and the disease being one of the constitution our reliance is properly upon them. Y.

ART. IV.—*A Practical Treatise on Midwifery.* By M. CHAILLY, M.D., and Ex-Chief of the Obstetric Clinique of the Faculty of Paris, Prof. of Midwifery, Member of the Society of Medical Emulation, &c., &c., &c. Illustrated with 216 wood-cuts. A work adopted by the Royal Council of Public Instruction. Translated from the French and Edited by GUNNING S. BEDFORD, M.D., Professor of Midwifery and the Diseases of Women and Children, in the University of New York. New York: Harper & Brothers. 1844. 12mo. pp. 530.

The full title page enumerates the claims of this work to the confidence of the profession: it was adopted by the Council of Public Instruction of France, and was esteemed of so much practical value by an American teacher of midwifery, that he undertook the labor of presenting it to his countrymen in an English dress. Professor Bedford further states that the volume embodies the instructions and experience of the eminent Paul Dubois, which, he justly supposes, will secure for it a favorable reception on this side of the Atlantic. In some respects, the publishers have done justice, in the mechanical execution, to the high scientific character of the work, but the wood-cuts have been a good deal criticised, and we must say with propriety. We wonder that pains were not taken to render the volume more unexceptionable in this particular. As it is, however, the student will derive a great advantage from the illustrations, which are given on every few pages. Combining, as the work does, all that is new in obstetric science, and abounding in that practical information which the young accoucheur wants at the bed side, it may be recommended as one of the most compendious treatises on the subject before the profession. Y.

ART. V.—*The Cyclopædia of Practical Medicine.* Edited by JOHN FORBES, M.D., F.R.S., ALEX. TWEEDIE, M.D., F.R.S., and JOHN CONOLLY, M.D. *Revised, with additions*, by ROBLEY DUNGLISON, M.D. Philad: Lea & Blanchard. 1844. Part I. To be completed in 24 parts; a part to be issued every 2 weeks. Price 50 cents a number.

This Cyclopædia is pronounced, on all hands, to be one of the most valuable of the medical publications of the day. It is meant to be a library of practical medicine. As a work of reference, it will be invaluable. Among the contributors to its pages it includes many of the most experienced and learned physicians of the age, and although it must happen in such a work that some topics will not be treated with sufficient fullness, while others may occupy undue space, as a whole it forms a compendium of medical science and practice from which practitioners and students may draw the richest instruction. Y.

ART. VI.—*Transactions of the New York State Medical Society. Vol. VI. Part. I.* Albany: Joel Munsell. 1844.

This is a collection of interesting papers. The second one, by Dr. Blatchford, discusses a curious question connected with equivocal generation. Dr. B. was called on to testify in a suit of slander, in which one woman was accused by another of having become pregnant by a dog. He declares the impossibility of such an occurrence, and enters into many striking details to prove his position. In order to procreation, he says, there must be an agreement in the three following particulars:

"1. Both species must possess organs of generation exactly alike.
2. The time they go with young must be the same.
3. They must agree in their manner of copulation.

Hybrids among animals occur only in a very few classes. There is that of the horse and the ass kind, but here we find the female ass and the mare furnished with organs of generation precisely similar, their period of gestation is the same,

being a little over eleven months, and so is their manner of copulating; thus there is a concurrence of these three important particulars, essential to pregnancy in cross breeds. The same similarity occurs between the male organs of generation in the jack and the stud as occurs between those of the females of the same species. But here a circumstance should be mentioned which shows very strongly the antiphysical nature of such abnormal productions. The hybrids of these animals never possess the power of reproduction; although as far as the investigations of the anatomist can ascertain, they are furnished with all the necessary organs of generation, and the male mule is vastly more lecherous than either the jack or the stud.

"Another instance is that between the sheep and the goat. Here, likewise, we find the three essentials present; the organs of generation, and the manner of copulation are the same, and they both go with with young five months."

Experiments have been made again and again, he says, upon the dog, wolf, and fox, to see whether they would cohabit promiscuously. He adds:

"The organs of generation are alike in all three, and the manner of copulation is the same likewise; but a difference exists between them in the period they go with young. The fox goes six weeks, the dog nine, and the wolf fourteen. This is doubtless the great barrier, which, together with the almost irreconcilable hatred subsisting among them toward each other, the wise Creator has set up to prevent their promiscuous union. If so, we may safely predict that every succeeding experiment will be alike unsuccessful."

The popular belief is opposed to this. It is generally supposed that intercourse between the dog and the wolf is fruitful. Buffon, however, maintains the contrary, and he investigated the point with great labor—procured pups of the two races, brought them up together, and kept them in retired places; but in three years they were never observed to have sexual intercourse. If animals agreeing in almost every particular do not possess this power, it cannot be expected, says Dr. B., in those who differ so widely as man and dog. Having stated the difference in their organs of generation, he adds:

"The two species differ as widely in the construction of

the uterus, and these differences, to say nothing of one being uniparous, or bearing one at a birth, and the other multiparous, or bearing many at a birth, are sufficient to make a great difference in the manner of copulation. In our own species it is a muscular propulsion of the sperm by the male, almost entirely unassisted, into the uterus of the female. In the dog, on the contrary, it is a kind of muscular secretion, or mechanical compression, produced entirely by the contraction of the female organs, excited to their highest degree by the presence of the male. In the one, the male is the active agent in making the deposite, while the female remains nearly passive; in the other the male remains almost entirely passive while the female is the active agent.

"If therefore it be true, as I think I have made it abundantly appear, that a certain essential power be wanting in both individuals, a power without which impregnation is impossible, even admitting all other things to favor the opposite result, does it not approach very nearly to a demonstration, that the object contemplated can never be effected?

"But if these differences of structure are not sufficient to prove my position, there is the very wide difference between the two individuals in the period of gestation, while in one it is forty weeks, in the other it is only nine."

Any one curious about such matters will find much more to the same point in this paper. The volume is one which does credit to the Society from which it emanates.

Y.

SELECTIONS

FROM

AMERICAN AND FOREIGN JOURNALS.

Employment of Electricity and Electro-Magnetism in Poisoning by Laudanum. By GEORGE CORFE, Esq. SIR—I beg leave to submit to you the following particulars relating to two persons who were brought into the hospital under the denomination of "poison cases;" the first of which was really one, the second had all the appearance of being so, both from the symptoms that presented themselves and from strong circumstantial evidence.

Both cases were treated alike; the first recovered perfectly, the latter one died; and it was by means of the post-mortem examination that the real cause of her decease was discovered to be in that change of structure in the kidneys known as "Bright's disease."

With reference to the former I will observe, that a square-built, stout man, (G. Freegroove), aged 54, was brought here at three o'clock in the morning of the 14th of September last, having taken an ounce and a half of laudanum the preceding evening, at half past nine o'clock. In the first instance I ordered the administration of the stomach-pump, at which period, to all appearances, he was a lifeless corpse: the pupils were contracted to a pin-hole in size; the pulse was intermitting, and not more than 40; the respirations convulsively performed at intervals of half a minute; the face livid, and the extremities bluish and cold. After the stomach had been relieved of its contents, green tea, with ammonia was injected therein; flaggellation with thin splints and wet towels, the cold douche, turpentine stupes and sinapisms to his calves

and abdomen, were applied in succession, without the least improvement in his condition. The bladder was relieved of six or eight ounces of light-colored urine by the catheter. I then thought of a most powerful remedy, which was attended with extraordinary success; I allude to the electro-magnetic battery, conjointly with electricity, which was set to work upon him soon after four o'clock. The pulse became more steady, firm, and frequent; the respiration more indicative of resuscitation. Our powerful electrical machine was now got into full play before a large fire, and the jar filled, when some brilliant sparks and strong shocks were occasionally passed through his head, spine, thorax, and abdomen. None of these means roused him, beyond throwing the whole body into violent and convulsive succussions and muscular contractions.

After an hour's hard work, in which the son of the patient exerted himself most indefatigably, the man suddenly roused up, with something like the following exclamation:—"Holloa! you rascals, what are you trying specimens on me for? I wish you'd let me alone." At this moment he opened his eyes and looked wildly about him, and though he evidently did not recognize the person of his son, yet he knew his voice, and asked him for his clothes to put on, which he said were in the next room, whilst the poor son was so affected by the sudden change from apparent death to comparative consciousness, that he turned aside and gave expression to his feelings by bursting into tears. After this the patient relapsed a little, and another shock was given him from time to time, which, when it was directed to the tip of the nose, excited his frame and his anger too, above all spots, for he instantly broke out in such remonstrances as these:—"What are you about, you set of beasts! You are only keeping me here to try your specimens upon me. I want to go, and you shan't keep me either, you unfeeling brutes! You are like savages, pulling a man about in this way," &c.

This work went on until after seven o'clock, when I considered him so much better as to place him in the ward in charge of the nurse and his son, and he walked home from the hospital the following day, quite well and very sulky.

I now proceed to the second case, that of a corpulent widow, about 40 years of age, from Rathbone-place, who was brought here by the police on the 5th of December, at 4 o'clock, p. m., under very similar circumstances, being found in her bed at six o'clock, a. m., in a state of perfect insensi-

bility, which had continued ever since. The female, her companion, who slept in the next room, stated that she had taken, in the course of the night, about three ounces of laudanum. The pulse, however, was slow, but regular; the respirations irregular and convulsively performed, about six and eight in a minute; the pupils were contracted, but not so much so as in the previous case. The treatment was precisely the same, except that we could not succeed in emptying the stomach, though we injected green tea and ammonia by means of a large catheter and an elastic gum bottle. She died four hours and a half after her admission, or fifteen hours from the period when she was discovered to be in this state.

On informing you, sir, of this case, I received your order for examining the body, which I accordingly did about 13 hours after death. The left hemisphere of the brain was flatter and not so fully developed as the right, otherwise there was no structural disease or lesion of this organ. The contents of the thorax were healthy, the lungs gorged with black blood, and loose coagula of black blood in both ventricles of the heart. The mucous membrane of the stomach was softened, and easily torn away by the nail; it contained only the green tea which had been injected.

Having made the examination, I came to the conclusion that the deceased had not destroyed herself by laudanum. I left the body, and it was sewed up for the coroner and jury, when, having pondered the case over, the conviction was brought to my mind that in the kidneys might be discovered the real cause of the lady's death. I lost no time, therefore, in getting the body re-opened, and in removing the kidneys, when, to my astonishment, and, I may say, great satisfaction, I found them to present a striking specimen of that disease known as "Bright's kidney," in its second stage; they emitted that peculiar rank, suffocating smell, not unlike game in a state of putrefaction, and which I frequently noticed before in cases of poison from "ischuria renalis." The bladder was firmly contracted and not larger than a walnut, and was even smaller than the uterus. This fact, I may observe, I noticed on the first day's examination.

It was now clear to my mind that the deceased had died from renal apoplexy, or as authors term it, ischuria renalis, a disease which has been so ably described by Sir Henry Halford, in a paper read before the Royal College of Physicians, and quoted by Dr. Watson, in his recently published and valuable lectures on the practice of physic, from which work I shall

take the liberty of quoting a case exactly corresponding to that of the deceased.

"A very corpulent robust farmer, of about 55 years of age, was siezed with a rigor, which induced him to send for his apothecary. He had not made water, it appeared, for twenty-four hours. But there was no pain, no sense of weight in the loins, no distention of any part of the abdomen; and, therefore, no alarm was taken till the following morning, when it was thought proper to ascertain whether there was any water in the bladder, by the introduction of the catheter, and none was found. I was then called (says Sir Henry), and another inquiry was made, some few hours afterwards by one of the most experienced surgeons in London, whether the bladder contained any urine or not, when it appeared clearly that there was none. The patient sat up in bed and conversed as usual, complaining of some nausea, but of nothing material in his own view; and I remember that his friends expressed their surprise that so much importance should be attached to so little apparent illness. The patient's pulse was somewhat slower than usual, and sometimes he was heavy and oppressed. I ventured to state (continues the author) that if we should not succeed in making the kidneys act, the patient would soon become comatose, and would probably die the following night, for this was the course of the malady in every other case that I had seen. It happened so; he died in thirty hours after this, in a state of stupefaction."

Before I conclude, I must mention, as a fact of the case worthy of notice, that the shocks of electricity produced a faltering of the pulse and diminution of the vital powers, instead of rallying them, as was the case with the man.

I would leave these hints regarding this powerful therapeutical agent for your consideration, and that of any medical gentleman who may be connected with the Royal Humane Society, or other similar institutions.

I beg leave also to add, that during my residence in this hospital I have received several dozens of patients who had fallen down in what were called fits of insensibility, or apoplexy, but in all of which the same appearances which I have just described were visible after death; and in this instance my mind was strongly carried away from the consideration of such a disease existing by reason of the positive assertions of her friends that she had taken laudanum; whereas it appeared on the inquest that this drug, which was kept in several bottles by her, was only used as a liniment on her

loins, to relieve the severe pains she felt there and in her head, for which cause she often said to her niece, who slept with her, that she should one day certainly go mad. It was fully proved by the niece that she had never taken laudanum, though the pain had been unusually great on the night (December 4) of her last attack of headache. These facts will, I think, appear worthy of attention.

London Lancet, for January.

Open Anus in certain forms of Fœcal Incontinence.—In a case of severe sporadic dysentery, recently related by M. Bouchut (Jour. de Medicine), the anus remained permanently open, and allowed the contents of the rectum to escape, without the patient being able to restrain their emission. This state of the anus he ascribes to weakness of the sphincter ani, and to predominance in the action of the levator ani, which is the dilator of the anus.

The paralysis of the spincter ani in this case may be explained by a principle in pathology, on which great stress is laid by some continental pathologists, among whom we may mention M. Gendrin. According to this pathological law, whenever a mucous membrane is severely inflamed, the muscular fibres which are in contact with it become paralysed, as a necessary consequence of the propagation to them of the inflammation. Thus, when the mucous membrane of the larynx is inflamed, the muscular fibres of the vocal cords are paralysed, and aphony follows. The existence of the law may be illustrated by many other examples. In bronchitis or inflammation of the bronchial mucous membrane, if the inflammation is intense, extreme dyspnœa follows, and as M. Gendrin very correctly remarks, all the symptoms of pulmonary emphysema ensue, owing no doubt, to the paralysis of the muscular fibres of the bronchial tubes. In peritonitis the inflammation of the peritoneal covering of the intestinal canal extends to the muscular coat, completely paralyses it, and thus gives rise to constipation; as, also, the paralysed intestine no longer offers any resistance to the expansion of the gases it contains, tympanitis follows. In severe enteritis it is the inflammation of the mucous membrane which paralyses the muscular structure; but as the intestinal mucous membrane is separated from the muscular one by a fibro-cellular layer, the inflammation acts less intensely on the muscular fibres than in peritonitis, and unless it be very severe,

diminishes, but does not abolish its contractile power; thence it is that, generally speaking, in enteritis we have mere constipation, tympanitis only existing in the worst cases.

Ibid.

Progress of Thomsonism.—On the 29th page of the Botanico-Medical Recorder, is a communication from one H. Sheddon, dated at Coventry, R. I., which is entirely a unique production in several respects. He speaks of himself as being located at Coventry, as a "Thomsonian physician." And further, in speaking of the people of that quarter, he says, "they begin to think that when people die, it is not always the Lord's will, but the doctor's poison. These poisoners have done everything that is dishonorable, low and mean, to stop the progress of Thomsonism in Coventry." No wonder some have risen up in their strength to withstand the tidal wave of such concentrated ignorance and presumption as mark the character of this correspondent's production. But it is chiefly in his poetical light that this man of Coventry is to be noted. With a boldness that brooks no control, and a fervency such as poets feel in moments of ideal exaltation. Dr. Sheddon thus exclaims:

> "But after all their foul abuse,
> The people love Lobelia juice;
> Steam and powders is the cry,
> Let us have these, or we die."

He adds—"The first two years of my living in this place, I did not receive one hundred dollars." The wonder to us is, how he ever received anything.

Boston Med. and Surg. Jour. for May.

Disgraceful Advertisements.—No better evidence of the corruption of the times and the boldness of those who live by imposition, and even crime, could be adduced, than many of the advertisements in this and all the great Atlantic cities. The advertisers seem utterly shameless, besides being thoroughly unprincipled. These shocking specimens of ingenious corruption, under the guise of Samaritan efforts for suffering humanity, are a disgrace to the newspapers, the me-

dium through which the concentrated vileness of a mighty host of depredators on health obtains an introduction to the ignorant community.

Look at the advertiser's description of the *Portuguese Female Pills!* "The combination of ingredients of which these pills are composed, have made them the wonder and admiration of the world." "They must not be used during pregnancy, for though always mild, safe and healthy, they are certain to produce miscarriage, if used during that period." This false caution creates a positive demand for them for the most wicked purposes. And so of a multitude of others which we have neither time nor patience further to allude to. These advertisements are admitted into papers which circulate in families and lie on parlor tables, and the mischief which is done in various ways through their means is incalculable.—*Ibid.*

Intemperate Physicians.—Happily for society, the old race of tippling physicians has gone out of fashion. Formerly it was one of the common reproaches brought against the profession, that many of the best practitioners were intemperate. If they could be caught while sober, their advice was of the highest value. There is no occasion, in this age of soberness, for watching an opportunity to get medical advice from that class of physicians. In New England, there are a few drinking ones left—laudanum-taking men, perhaps, who vainly imagine that they are securely deceiving the world in regard to their habits, when the fact is, no one is in the dark but themselves.

How disgraceful—and, above all, what a fearful responsibility—to prescribe for the sick when muddled with liquor or stupefied with opium! The public have a vigilant eye on the remnant few of these semi-sober physicians, who must either conform to the requirements of reason and the temperance reformation, or go down in poverty and neglect to that low obscurity to which a moral community will certainly consign them.—*Ibid.*

Naphtha in Pulmonary Consumption. Case I.—July 14, 1843. A. N., ætat. 32, has had cough and expectoration of opake yellow matter for some months, with emaciation. Was

able to pursue her occupation, that of a dress-maker, until the spring of the present year, when her debility was much increased. Percussion dull over the left side throughout its whole extent; respiration cavernous in the same side as low as the third rib; pectoriloquy perfect; percussion natural on the right side; respiration bronchial; no râle. To take ten drops of naphtha three times in a day. After taking it a few days, she "thought it did her cough good." She continued the naphtha without the least apparent benefit until within a few days of her death, which took place September 11. Whilst taking the naphtha, the night perspirations were much increased.

Case II.—July 13, 1843. S. M., ætat. 20; four months ago, being in service in London, was attacked with cough, accompanied with much debility and languor; returned home a fortnight since. Countenance unhealthy; expectorates globular masses, of a greenish white color; pulse rapid; perspires much at night. The subclavicular spaces on either side are much flattened, and preternaturally sonorous on percussion; under the right clavicle the inspiration is accompanied with a single moist crapitation; pectoriloquy perfect. On the left side the respiration is rough and grating, and a puff is heard to strike at the bottom of the cylinder at each effort at articulation; sounds of the heart diffuse. After taking ten drops of naphtha three times daily for three weeks, the expectoration somewhat lessened, but again increased in a few days; the dose was augmented to fifteen drops. Colliquative diarrhœa set in, which was with difficulty checked by opium. As she considered the naphtha aggravated the diarrhœa, she was ordered to omit it for a few days, but as little alteration was observed in the frequency of the motions, she resumed it; becoming, however, rapidly worse, she finally abandoned it, after having taken it about a month. She died December 3.

Case III.—August 18, 1843. Mrs. S., ætat. 30, had been affected during the last winter with cough and shortness of breath, which confined her to her house. During the summer her health improved, so that she was able to take walking exercise in the open air. Towards autumn her health again declined; she was troubled with night perspirations, cough and expectoration; catamenia suppressed. Percussion elicited a dull sound under the right clavicle, in which situation a small crepitation is heard at the end of each inspiration. On the left side the inspiration is broken. Took the naphtha, in doses of fifteen drops, for nearly a month.

when it was abandoned at her own request. During this time the symptoms progressed from bad to worse without any mitigation. She is now entirely confined to her bed, and her death is daily expected.

Case IV.—July 20, 1843. O. J., ætat. 24, family consumptive; had dry cough at the beginning of the same year, which did not much interfere with his health until the middle of May, when he was attacked with hæmoptysis, which lasted more or less for two days, since which time he remained much debilitated. Face pallid and thin; coughs much, and expectorates mucus with yellowish masses suspended in it; is capable of walking about, and can lie on either side; pulse 94; perspires at night; percussion rather dull in the left subclavicular region, as far as the third rib; respiratory murmur in this situation feeble, and occasionally broken; a faint crepitation may sometimes be detected at the termination of each expiration; much vocal resonance; percussion under the line of the right clavicle slightly dull; respiration over the whole of this side puerile; no râle. He commenced taking naphtha three times daily, in doses of ten drops, which were gradually increased to twenty. The only effects observed were that it produced severe griping, aggravated the diarrhœa, and, while under its use, perspirations were most profuse. To control its tendency to increase the diarrhœa, a few drops of laudanum were given in conjunction with the naphtha.

With much perseverance this patient persisted in its use, although to him a very disagreeable medicine, until the 1st of September, a period of six weeks, when he could not be persuaded to go on with it longer. During the time he was taking it, the cough, expectoration, hectic fever, and emaciation increased rapidly; and stethoscopic examination discovered progressive softening and disorganization of the upper part of the left lung. He died in October.

Case V.—August 18, 1843. Mrs. S., grocer, of stout, robust make, has for several winters been troubled with cough and expectoration. In the summer of the present year spat blood for two or three days, since which has had much expectoration of muco-purulent matter, frequently tinged with blood; has lost flesh, but is still capable of partially serving in her shop. Percussion dull under the left subclavicular space, which is considerably flattened, and in which situation a moist crepitous râle is heard. To take 20 drops of naphtha three times a day.

September 23. Is evidently weaker; cough violent; expectoration copious, and much dyspnœa on exertion. States

that the only effect which she can ascribe to the drops is the induction of some degree of headache after taking them.

After persevering in the use of naphtha for nearly two months, without benefit, she discontinued it, at which time the crepitating râle had given place to a strong and extensive gargouillement. Her condition is now much the same as when she discontinued the use of the naphtha.

Case VI.—Aug. 12, 1843. Mrs. S., æt. 29, has had cough since last Christmas, but without much disturbance of the general health, until about three months ago; she then experienced debility and night perspirations. Her present symptoms are as above detailed; expectoration sparing; pulse very rapid; catamenia suppressed for two months; percussion very dull below the left clavicle, inspiration here terminating in a slight mucous râle; expiration prolonged, rough, and blowing; pectoriloquy distinct. After taking the naphtha in doses of twenty drops, for a month, without any benefit, and with rapid advancement of the disease, she discontinued it.

Case VII.—October 1, 1843, J. F., ætat. 32, states that he has had cough for some weeks; expectorated recently about a teaspoonful of blood; suffers from shortness of breath, but is tolerably robust in appearance; on percussion a trace of dullness is perceived immediately under the right clavicle; the inspiration here is feeble; expiration broken. After he had taken twenty drops of naphtha three times a day, for a fortnight, with little or no relief to his cough or breathing, I did not feel justified, after the naphtha had hitherto entirely failed in my hands, in omitting any other means which I thought might be beneficial to the patient. I therefore kept up counter-irritation under each clavicle for several days; at the same time he continued the use of the naphtha. Under this plan his health improved, his cough moderated, and his breathing became less difficult, and for the last three weeks has been able to fulfil the duties of his avocation, that of a farm-laborer. He ascribes his recovery to the repeated blisters. Whether these, or the naphtha, be entitled to the credit, I shall forbear to express my opinion.

From an attentive consideration of the cases which have been imperfectly detailed above, I cannot hesitate to state that, at present, I am sceptical as to any beneficial influence exercised by naphtha in cases of true tubercular phthisis. At the same time I shall not fail to give it a more extended trial, as opportunity offers.—*London Lancet*, for January.

Remarkable Case of Abdominal Tumor.—Mr. Dendy, after some comments on the acknowledged difficulty in the diagnosis of abdominal tumor, read a case, of which we give the following extract:

A gentleman, 31 years of age, previously in fair health, yet having suffered for a week under severe influenza, and for which he had taken large doses of nitrate of potash, was suddenly attacked, on the 10th of October, by abdominal tumefaction of the right side with but very slight concomitant uneasiness. The tumor increased so rapidly that within twenty hours from its perceptible commencement it reached from the margin of the ribs to Poupart's ligament, extending across the umbilicus, projecting into the loins, and resting on the crista of the left ilium. It was then insensible to pain on pressure, yet producing dyspnœa from its encroachment on the diaphragm, &c.

After a few days, during which there was complete constipation, neuralgic pain supervened, first in the lumbar plexus and afterwards in the sacral, and the nerves proceeding from them. This neuralgic pain became, in the course of the disease, occasionally so agonizing as to produce extreme agitation, and subsequently stupor. The pulse and urinary secretion were nearly natural.

Enemata, repeated purgatives, and anodynes were administered. The bowels were not relieved for nearly ten days, and then for nearly a week longer the evacuations, even after enemata, though the elastic tube was introduced as far, at least, as the upper angle of the sigmoid flexure were merely morbid grumous secretions of the intestine.

About the 30th of October the evacuations became more feculent, but mixed with numerous shreds of coagulated mucus, resembling grape-skins. Emaciation was now visible, and this progressively increased, notwithstanding a very fair proportion of nutrition was administered and retained, and various medicines were exhibited. Early in November colocynth and compound decoction of aloes succeeded, after a day or two, in producing more feculent motions. Still the tumor increased until the abdomen measured two feet six inches in circumference.

On November 20th pus began to flow with the urine in large quantity, and was attended by very perceptible diminution of the tumor; still emaciation continued until the end of November. From this period the patient gained flesh, and on the 6th of December, the urine having become almost natural, he was pronounced convalescent.

The interest excited regarding this case was increased by the circumstance of this being the second severe attack, marked by precisely the same symptoms; the first appearing four years since. He had, however, suffered under three other very transient attacks in early life, at almost regular periods, which speedily yielded to purgatives.

Many acute pathologists visited this gentleman in the course of the malady—their diagnosis differing considerably—the principal opinions referring to colic, impaction, congested spleen, melanotic, or even malignant growth, serous cysts attached to the peritoneum, or developed in submucous tissue, and suppuration of the kidney in its capsule.

The author analysed these and other notions suggested during attendance, referring to the absence of records of analogous cases in Morgagni, &c., and alluding to other cases recorded by Dr. James Johnson many years since, leaving the essential or primary nature of the disorder, whether consisting in pyelitis, with masked symptoms, or in cystic suppuration bursting into the collapsed capsule of the kidney, as well as the etiology of the case, especially with reference to the nitrate of potash, as an open question for discussion.

Dr. James Johnson had lived long enough in the world not to be ashamed to acknowledge an error. The result of the case nuder discussion proved that he had been wrong in suspecting it to be dependent upon disease of the spleen. He was now of opinion that the tumor had resulted from distention of the pelvis of the kidney; and he handed to the secretary an abstract of a case of renal suppurative dropsy which had come under his care sometime since. The subject of the case was a woman, eight months advanced in pregnancy. She complained of violent pain in the right side of the abdomen, extending from the umbilicus round to the lumbar vertebræ, and from the floating ribs to the groin. She had fever, with scanty, highly colored urine. The abdomen appeared unusually large, and there was a distinct *sulcus* running from the scrobiculus cordis to the pubis, on each side of which the abdominal tumor rounded out as though there were two impregnated wombs. She reported that of late her urine was sometimes scanty, sometimes copious and white like milk. On the 10th of May she fell into labour, and next day was delivered of a living child. The right side of the abdomen remained as large as before delivery, presenting a considerable tumor, seven or eight inches in diameter, perfectly smooth on its surface and giving the feel of fluctuation. Fever, colliquative diarrhœa, and constant micturition followed. On

the 20th of May the nurse was surprised to find the bed, and even the floor of the room covered with a milky fluid, which had escaped in the night, without the knoweledge of the patient, who had slept soundly. The tumor was gone. Fever, however, and diarrhœa continued, and she sunk in a few days. After death a large cyst was found, which, on being opened, discharged about three pints of milky fluid. The whole internal surface of the bag was very vascular, and thickly studded with a kind of papillary bodies, varying in size from that of a pin's-head to a pea. The ureter, of enormous size in some places, was traced from the cyst into the bladder, in which last viscus there was about a pint of this milky or muco-purulent fluid. No part of the substance of the kidney, but only this great capsule could be found. The cyst, on calculation, would probably contain about five or six quarts of fluid. She had had a similar attack in a former pregnancy, which subsided after delivery, on the supervention of a large quantity of milky fluid. The post-mortem examination of this case was conducted very quickly, and under unfavorable circumstances. No stricture of the ureter could be detected, but he had little doubt that it really did, or had, existed, as this canal was in some parts as large as the aorta. Pregnancy had produced this stricture by pressure. He thought that there was a strong analogy between this case and the one related by Dr. Dendy.

Mr. Pilcher observed that when he saw Mr. Dendy's patient in the attack under which he labored four years since, he had no doubt at the time that the tumor was intestinal; others agreed with him in this opinion, and hence he was induced to recommend the introduction of a long tube into the intestines. The second attack was of a similar character, and the same plan was recommended. He was probably led to form this opinion from having dissected a case attended by similar symptoms, and which was supposed to be disease of the kidney, chiefly, from the circumstance of the urine containing pus on more than one occasion. On examination, all the urinary organs were found healthy. No marks whatever of a tumor could be detected; she died of diarrhœa. In this case, he had no doubt that the tumor had consisted of a collection, probably of fluid, in the colon, and that the discharge of pus from the bladder was merely a coincidence.

In the second attack, in Mr. Dendy's case, it was considered that the tumor was situated, probably, in the ileum, and that as it became diminished by the discharge per anum, it be-

came refilled by the secretion of fresh fluid. The discharge of large quantities of gelatinous matter somewhat favored this conjecture, as this matter was supposed to be secreted by the mucous membrane of the intestines. Other circumstances in favor of this opinion were the sensation the patient experienced on the introduction of the pipe, of its having passed *behind* the tumor, the constipation previous to the attack, the subsequent discharges, and the severe neuralgia, which was evidently the result of the pressure exerted by the tumor. Dr. Bright had felt no doubt but that the first attack was a well-marked instance of suppuration of the kidney. It was certain that in proportion as the pus was secreted from the bladder, the tumor diminished in size; but it must be recollected that there was diarrhœa, also, and it was difficult to say upon which discharge the diminution of the tumor depended. Dr. Bright had been surprised at the occurrence of the second attack, as he supposed that the kidney had suppurated entirely away, but considered that the cyst which would have remained had become inflamed and suppurated. The opinion of the speaker was, that the cyst of the kidney had remained in a collapsed state after the subsidence of the first attack; but on the occurrence of a general disordered state of the health, or the determination of a large quantity of blood to the cyst, the disease had returned. The periodic nature of the attacks was a point of much interest; the first occurred at seven, the second at fourteen, the third at twenty-one, and the fourth at twenty-eight years of age; there had been an interval of only four years between this and the last attack. Cases similar to that of Mr. Dendy were of uncommon occurrence, except as the result of stricture, or some mechanical obstruction to the flow of urine, from which originated a collection of fluid in the pelvis of the kidney. It was possible that stricture might exist in Mr. Dendy's case, but he did not think that it did.

Dr. T. Thomson considered the disease, in Mr. Dendy's case, to have consisted of suppuration in one or more of the calyces, or of the entire pelvis, of the kidney. The cause was obscure. He related a case of a woman subject to diarrhœa, and who had a large tumor on the left side of the abdomen. Pus was found in the urine, and occasionally the triple-phosphate deposit. With a view of dissolving this, small doses of hydrochloric acid were administered, but were obliged to be discontinued in consequence of its severe action on the bowels. She was subject to severe pains, which were

relieved by the administration of morphia. She lived two or three years, and after death the left kidney was found very much enlarged, and filled with pus. There was a triple-phosphate calculus impacted in the ureter of that side. Cases similar to Mr. Dendy's were usually the result of obstruction in the ureter; there was no evidence, however, of such an obstruction in this case. The long interval between the attacks favored the opinion. In Mr. Dendy's case there was no deposit of triple-phosphate in the urine.

Dr. L. Stewart related a case, in which the tumor, after death, was found to consist of an enlarged and thickened bladder.

Mr. Dendy, in answer to questions, stated that the patient whose case he had detailed, had, previous to the first attack of disease, taken a drachm of nitrate of potash twice a day; and two drachms three times a day previous to the last attack. This he did in opposition to his medical adviser.

Dr. Johnson considered this quantity sufficient to do mischief to the kidneys, and wondered it had not also seriously affected other organs. He had seen half-drachm doses very injurious to the stomach.

Dr. Willshire suggested that the nitrate of potash had acted as a powerful stimulant in this case, producing inflammation, and consequent suppuration of the kidney.

Mr. Headland observed that the value of the case under discussion much depended on the advantage it afforded of diagnosticating any similar case, should such be presented to our notice. He thought its whole history proved that the disease could not have been situated in the colon or the spleen, neither did he think it was at all proved that in the last case the kidney had suppurated. We had certainly no evidence of the presence of nephritis, in the usual sense of that term, the more prominent symptoms of that disease being absent. He was inclined, therefore, to think that there had been suppuration of the kidney in one of the former attacks, and that the cyst left after this disease had, in the last attack, become filled with fluid, not exactly pus, but an elimination from the blood. Did this arise from the administration of the nitre? We knew that in large doses this medicine was injurious, and did not act as a diuretic unless largely diluted with water. He therefore thought that in the present case the first effect of the medicine had been on the bowels, producing the peculiar evacuations which had been mentioned. It then appeared to have excited such an action on the cyst as to have caused an elimination from the blood to be secreted in it

There were no signs or symptoms of the formation of pus. If inflammation had existed to such an extent as it must have done to produce suppuration, the patient most likely would have succumbed.—*London Lancet*, for January.

Tic Douloureux of the Face and Head.—M. Ducros recently communicated to the Academy the details of some well-marked cases of this distressing disease, which were rapidly cured by the use of strong ammonia, applied to the palate, gums, &c., with a camel-hair brush, so as to occasion a profuse discharge of tears and saliva. He requested the physicians of several of the metropolitan hospitals to repeat his experiments on a large scale; and the results of their trials have been, he says, most satisfactory.

The strong aqua or liquor ammoniæ, taken internally, will be found to be a most valuable remedy in many cases of neuralgic suffering about the face and head, odontalgia, severe nervous headache, &c. The best mode of administering it is to mix from 20 to 40 drops in a cupful of very thick gruel, and to take this at bed time, or whenever the paroxysm of pain is present. The ammonia must be well blended with the gruel, else it will irritate very painfully the inside of the mouth and throat. It should produce a profuse salivation and lachrymation. In very severe or obstinate cases, it may be applied outwardly at the same time.—*Med. Chi. Rev.*, Jan.

Employment of Chloride of Zinc in Toothache. By Dr. Stanelli.—According to Dr. Stanelli, the chloride of zinc, liquified by exposure to the air, possesses the property of calming dental pains.

His mode of application is most simple. By means of a small hair pencil, a small quantity of it is applied to the cavity of the painful tooth, and in the space of a few minutes it appeases the most acute sufferings, without causing any irritation.

Before proceeding to the application, it is indispensable carefully to surround with cotton wadding, and, when the chloride has been applied, to well fill the cavity with this same cotton. The mouth is finally washed with a little warm water.

The author affirms that he has obtained uniform success from this means in more than fifty cases, and that he has never observed the progress of the caries rendered more active by it.—*Annali Universali de Medicina; and Chemist.*

Animalcules in the Intestinal Canal.—MM. Gruby and Delafond read a paper at the Academie des Sciences, on the 11th of December, on certain animalcules existing in great numbers in the stomach and intestines of herbivorous and carnivorous animals during digestion.

These physiologists, while pursuing their researches on digestion, made the discovery of numerous animalcules which are born, live, and die, in the stomachs of ruminantia—of the dog and pig, and in the large intestines of the horse. These animalcules exist in such numbers, and their presence is so constant, that they may be supposed to be of some service in the act of digestion. The following are the conclusions which may be drawn from their communication.

1. That the ruminantia have four species of living animalcules in their stomachs, during the period of digestion.

2. That the horse has seven species of living animalcules in the cæcum and dilated portion of the colon.

3. That the dog has two species of monads in the stomach.

4. The pig has only one species of animalcule in his stomach.

5. The animalcules of digeston are born, live, and swim in the acid liquor contained in the stomach.

The great number of these animalcules in the two first stomachs of ruminantia, the presence of their empty exuviæ in the third and fourth, and in the excremental matter, the considerable number of them in the cæcum and dilated colon of the horse, as also the existence of their empty exuviæ in the contracted colon and rectum, lead the authors to believe that the organic matter of these animalcules is digested in the stomach of ruminantia, and that it is absorbed in the contracted portion of the colon of the horse, and that in both cases it furnishes an animal matter for the purpose of digestion.

The conclusion to be drawn from these facts seems to be that, since in a state of nature, herbivorous animals receive only vegetable matter into their stomachs, a fifth part at least is destined to give birth to a great quantity of animals of an inferior development, who, digested in their turn, furnish animal matter for the general nourishment of herbivorous animals. This conclusion seems the more reasonable, as in the dog and pig, which are fed on animal and vegetable substances; the animalcules are smaller, less numerous, and of only one or two species.—*Prov. Med. Journ.*, from *Gaz. Medicale*, Dec. 16.

Chlorosis.—Chlorosis, according to our view of its pathology, is *accompanied*, but not *induced* by the absence of the catamenia; and hence it seems to us that we may, with perfect safety, keep the circumstance of the amenorrhœa almost out of consideration, in conducting its treatment. The disease is essentially a disease of the circulating fluids, and may, it is well known, exist in the male sex as well, though not so frequently, as in the female. There is a deficiency of the red globules of the blood, and an excess of its serum. If we are to trust the recent researches of M. Andral—and his authority, we need not say, is not lightly to be disputed—the proportion of the red globules in chlorotic blood is less by one-half, or even two-thirds, than the normal quantity. Here is the "fons et origo mali:" we have a poor watery state of the circulating fluid, which nature finds insufficient for the purposes of healthy nutrition and secretion—at that very period of life, when these functions ought to be the most energetic. Although we could by the use of any means provoke the catamenial secretion under such circumstances, would it, think you, have any beneficial effect upon the general health?—we judge not. Menstruation, be it remembered, in one sex has its analogous function (although this is not periodic) in the other; and certainly no one would ever think of administering any aphrodisiac medicines to a chlorotic boy, for the cure of his green-sickness. Let but the system have once a due supply of heathy blood permeating all its parts, and stimulating all its organs, and then will the white-waxen look give way to a rosy freshness, the faded and capricious appetite to a natural relish for wholesome food, the peevish listlessness and inaction to sprightly animation and vigor, and, with these changes, the absence of the menstrual secretion will be replaced by a due and normal regularity. Such will be the effects of a judicious hygienic treatment by steel and other tonics, by exercise in the open air, and a generous diet—not forgetting Falstaff's sovereign remedy for male green-sickness. "The second property," says the old rogue, "of your excellent Sherries is the warming of the blood; which, before, cold and settled, left the liver white and pale, which is the badge of pusillanimity and cowardice; but the Sherries warms it, and makes its course from the inwards to the parts extreme; it illuminateth the face, which, as a beacon, gives warning to all the rest of this little kingdom, man, to arm; and then the vital commoners and inland petty spirits muster me all to their captain, the heart; who great, and puffed up with this retinue, doth any deed of courage."—*Med. Chi. Rev.*, Jan.

Sir B. C. Brodie on Fistula in Ano.—I presume that you are all aware of the fact that abscesses are very liable to form in the vicinity of the rectum, and that when so formed they heal only with considerable difficulty, and, for the most part, do not heal spontaneously. You are also aware that the parietes of those abscesses contract, and become hard and callous, in which stage the disease takes the name of *fistula in ano.*

Now, this affection, although of frequent occurrence in hospital practice, is much more common in private practice, and, therefore, it is, in every point of view, a disease of great interest to the surgeon.

The first question that presents itself is this,—Why is it that abscesses are so particularly liable to form in the situation in question, and that when so formed they do not heal like abscesses occurring in other parts of the cellular membrane? I formerly supposed that the healing process was prevented chiefly by the irregular action of the sphincter and levator ani muscles. Further consideration, however, and more mature experience, have led me to the conclusion that this opinion was incorrect. That such causes may interfere with the healing of any abscesses I well know, but I am now fully satisfied that they will not afford sufficient explanation why it so rarely happens that abscesses near the rectum heal spontaneously, and, at any rate, it is quite clear that the action of these muscles will not explain the formation of these abscesses. In order to explain their formation, I must call attention to what happens in other parts of the intestinal canal. The mucous membrane, under a variety of circumstances, is liable to ulcerate. In patients who die from diseased liver, or phthisis pulmonalis, or at the end of continued fever, and various other diseases, you find the mucous membrane of the bowels ulcerated. This ulceration seldom extends further, does not involve the muscular tunic, but sometimes the latter is affected, and then some of the contents of the intestines escape. Should this occur where the intestine is covered by peritoneum the contents may escape into the peritoneal cavity. For example, there was a little boy, seven years of age, who had symptoms of mesenteric disease, who had just recovered from what was supposed to be a fever. When he appeared to be convalescent he was suddenly seized one evening with what was called a fainting fit, in which his pulse was not perceptible. After sometime, under the influence of a stimulant, he recovered; nevertheless, he continued low and depressed.

On the following day he had another attack of the same kind, from which he did not rally, and on examining the body after death, I found that there was ulceration on the inner surface of the ileum, and that the mesenteric glands were diseased. In one place the ulcer had extended by a small opening through the muscular tunic, and also through the peritoneum, and a small quantity of the feculent matter had escaped into the cavity of the belly. Every person who has had much experience of disease has seen cases of the same kind; but there are others in which both the muscular tunic and the peritoneal coat ulcerate, and yet the contents of the intestine do not escape into the cavity. Adhesions take place round the ulcerated spot before the ulceration of the peritoneal coat is completed, and these adhesions cause the contents to escape, not into the peritoneal cavity, but to become infiltrated into the cellular membrane of some part of the abdominal parietes. A young man, of seventeen or eighteen years of age, who had long been in ill health from disease of the lungs, and who was indisposed in other ways, was supposed to be rather better than usual, but one evening he was seized with violent pain in one side, and there was considerable tenderness of the whole of the abdomen. Two physicians were sent for, the symptoms were not exactly those of peritoneal inflammation, but they could not explain the symptoms so well in any other way as by assuming that he labored under peritoneal inflammation. The inflammatory symptoms subsided, and two or three months afterwards I was called in to see him on account of a tumor which had formed in the front of the belly. It was an abscess; I opened it, and there came out pus, and with it a good deal of foreign matter, which I was satisfied must have come from the intestinal canal. The abscess made its way in several other places, and ultimately this young man died. On examining the body after death, it was found that there were ulcerations at the lower part of the ileum; one of these ulcers had extended through the muscular and peritoneal tunics, but around that ulcer the ileum had contracted adhesions to the abdominal parietes above the groin, and the matter had escaped into the cellular membrane between the layers of the abdominal muscles, and from thence had made its way forward to the part where I opened it. This patient died, but it is not a matter of course, that under such circumstances, such should be the result. I was called in to see a little boy, who had been supposed to labor under mesenteric disease, and I found that there was an abscess near the umbilicus, discharging pus and feculent matter. We attended to his general

health, kept him in a recumbent position, lying on his back, which, I apprehend, was a most essential part of the treatment. Some very simple dressing was applied to the opening, and the boy ultimately recovered. I do not know whether he is still alive, but he was alive two or three years afterwards. I saw another case of the same kind, and I know that the boy lived a considerable time, but as he was taken away from London, I cannot tell whether he ultimately recovered or not.

That part of the intestine in which ulceration of this kind is most likely to take place, is the lower part of the ileum; but it not unfrequently occurs in the cæcum. Abscesses in the right iliac region, generally belong to the cæcum. A young man, on jumping from a coach, felt something, as he said, give way in the right groin, and he came to London with a tumor in that situation. I thought that there was a deep-seated gland which was suppurating, and recommended him to go home, to keep quiet, and to poultice the tumour. A month after he had jumped from the coach, he sent to say that the abscess had burst. There was a discharge of pus from it, but it was of a very offensive character, and on examining it carefully I was satisfied that there were fæces mixed with it. He had no bad symptoms at first, and being a very nervous man I did not tell him the exact nature of the case, lest it should alarm him. Two or three days afterwards he took some medicine, and a draught of decoction of bark. A short time after, to his horror, the decoction of bark ran from the groin and frightened him out of his wits. From that moment his nervous system began to give way, he became in a state of great nervous excitement, and died ten days after the bursting of the abscess.

On a post-morten examination I found an ulcerated opening of the cæcum; the fæces had escaped through it into the cellular membrane at the posterior part of the cæcum, and formed an abscess, which burst into the groin. There was a woman in this hospital, with an abscess in the groin, and we supposed it to be connected with dead bone, which is the case with a great number of chronic abscesses. Perhaps sufficient attention was not paid to the quality of the discharge; but one day the woman, in taking off a poultice, found in it a lumbricus. She ultimately died, and on examining the body after death, we found an ulcerated opening of the cæcum through which the intestinal worm had made its way. It was evident that the ulcerated opening of the cæcum, which was at the posterior part, had been the beginning of the abscess.

Though these cases are not exceedingly rare, I mention them, because stating specific cases will often impress an important fact on the mind, much more than a general observation.

I believe this is the way in which fistulæ in ano are always formed, namely, the disease is originally an ulcer of the mucous membrane of the bowel, extending through the muscular tunic into the cellular membrane external to the intestine; and I will state my reasons for entertaining that opinion. The matter is not only one of great interest as a question of pathology, but it is one of great importance, as I shall show by and by, in connection with surgical practice. It is admitted by every one, that in the greater number of cases of fistulæ in ano there is an inner opening to the gut, as well as the outer opening; and I am satisfied that the inner opening always exists, because I scarcely ever fail to find it, now that I look for it in the proper place and seek it carefully. I have, in a dead body, examined the parts where fistulæ had existed several times, and in every instance I have found an inner opening to it. This affords a very reasonable explanation of the formation of these abscesses; it is almost impossible to understand, on any other ground, why suppuration should take place in the vicinity of the rectum, more than in any other part of the body, and why the cellular membrane there should suppurate more than cellular membrane elsewhere. Moreover, the pus contained in an abscess near the rectum scarcely ever presents the appearance of laudable pus,—it is always dirty-colored, and offensive to the smell,—sometimes highly offensive, and occasionally you find feculent matter in it, quite distinct. There is no reason why an abscess, simply formed in the cellular membrane should smell of sulphuretted hydrogen; but there is a good reason why it should do so if it be connected with the rectum.

This being the case, it is easy to understand why these abscesses do not heal. The least quantity of mucus, even from the gut, or of feculent matter, issuing into the cavity of the abscess, is sufficient to occasion irritation and prevent it healing, and I have more than once, in the living person, been able to trace the progress of the formation of one of these abscesses. For example, I was sent for to see a lady who complained of some irritation about the rectum, and on examining it I found an ulcer at the posterior part. I ordered her to take Ward's paste,—confec. piperis nigrum, or cubebs pepper, I forget which. A month afterwards she again sent for me, and I found that there was an abscess. I opened it, and from the outer opening the probe passed into the gut through

the ulcer which had been the original cause of the disease. The original opening of the abscess is generally very small indeed, but occasionally it is large, and when the ulceration has proceeded to some extent, is large enough to admit the end of the little finger. The inner orifice is, I believe, always situated immediately above the sphincter muscle, just the part where the fæces are liable to be stopped, and where an ulcer is most likely to extend through both the tunics.

I believe that the most common cause of abscess of this kind is, the lodgement of hard fæces in the bowels; by the straining that takes place to expel them, the mucous membrane gets torn or abraded at one part, and then the passage of the fæces causes ulceration. Sometime afterwards straining again occurs, and then the muscular tunic gives way, and the fæces escape into the cellular texture. Foreign bodies, however, in the rectum, sometimes cause abscesses. I mentioned two cases in the last lecture, but I shall mention them again. I mentioned them before because they particularly appertained to the subject we were then discussing. I was called in by a gentleman who complained of great irritation about the rectum. I thought that he labored under internal piles, but the next day he complained still more, and on examination of the rectum, I found a hard substance sticking in the membrane. It was a piece of apple-core which he had swallowed the day before, and if it had not been extracted it would have occasioned ulceration, some of the fæces would have been pressed through the opening, and in all probability the apple-core would have been found in the cavity of the abscess. I was sent for to see another gentleman who was exceedingly ill with a large abscess in front of the anus. He had a brown or rather a black tongue, and bad typhoid symptoms. I opened the abscess freely, let out a quantity of putrid offensive matter, and, on introducing my finger into the abscess, I found a long fish-bone sticking across, with one end in the gut and the other in the abscess. He had swallowed the bone, it had stuck in the bowel, and a little of the fæces escaping by the side, made a putrid abscess. Patients, with disease of the liver, disease of the lungs, and in certain states of ill-health, are specially liable to abscess and fistula of the rectum. The reason is this: persons thus affected are peculiarly liable to ulcer of the mucous membrane; one of the mucous glandules is attacked, and, being very thin, it gives way under the straining that takes place to expel the fæces, and fæces escape through the opening.

The first formation of an abscess about the rectum is not in

general attended with very urgent symptoms. The patient has a sense of bearing down, a fullness and weight; he thinks that he has got piles, he puts his hand by the side of the anus, and finds a little hardness. After a time it increases, the parts become tender; there is pain when he passes his evacuations; perhaps some difficulty in passing them; by and by the pain becomes still greater, the skin inflames, the abscess, if left to itself, bursts, and a quantity of matter is discharged, which matter is almost invariably offensive, dark-colored, and putrid. The disease sometimes forms so insidiously that the patient is not cognizant of it till the abscess has burst. Twenty years ago a physician in large practice in London felt very ill, languid, listless, unfit for business; and in the middle of the day, in consequence of headache and an incapability of exertion, wanted to go home and lie down for an hour before he could finish seeing his patients. One afternoon, intending to walk home, he had sent away his carriage. He found something give way, burst into his small-clothes, and on his return he found that it was a putrid abscess—a fistula. He went through an operation for it, and got well.

While these abscesses are forming, there is sometimes little or no constitutional disturbance; but in other instances there is a great deal of it, and I believe that it depends chiefly on the quality of the pus, and that, again, on the size of the opening. If the opening be pretty large, and a considerable quantity of feculent matter escapes, the pus is then of a very putrid quality, and the more putrid its character, the more offensive it is to the smell, and the more poisonous it is to the patient's system; for, as it is more offensive to the smell, so it is more loaded with sulphuretted hydrogen. Such a collection of putrid matter sometimes produces very urgent symptoms. I was sent for to see an elderly gentleman in the neighborhood of London, with the late Dr. Blickham. I will not say that on my arrival the patient was in *articulo mortis*, but he looked as if he had not long to live—I should say hardly twenty-four hours. On inquiring into the history of the case I ascertained that he had a fistula by the side of the rectum. He had suffered under it for many years; for being afraid of an operation, he had let it go on. The external orifice occasionally closed for a time, but in a few days it opened again, and gave exit to the matter. Two or three months, however, prior to the time of which I am speaking, the outer orifice had closed, and there had been no discharge, and at first no inconvenience had been felt. By and by there was a sense of pressure, a bearing down of the rectum, and the patient became very

much out of health. At last typhoid symptoms supervened, and he appeared, as I have said, almost dying. I examined the parts, externally, and saw that the orifice of the fistula had cicatrised. I then introduced my finger into the gut above the sphincter muscle, and I could feel an immense tumour on one side, which was evidently a large collection of matter. With the forefinger of one hand in the rectum, with the other I ran in a lancet up to the point where the matter was collected. Not only the shoulders, but the whole blade of the lancet was buried before matter escaped, and then there was a little putrid discharge. With a probe-pointed bistoury I dilated the opening, and there came away a pint of such putrid matter that the whole house was poisoned by it; it could be smelt almost as bad as if a nightman had emptied his cart into it. The patient was better directly; though the incision was large there was no bleeding, and he recovered without a bad symptom. This circumstance took place many years ago, and he died lately of another complaint.

I have stated that the inner orifice of the abscess is always just above the sphincter muscle, and it may be that the abscess extends no higher than this. But in a greater number of cases it does extend higher up—sometimes one inch, sometimes two; nay, I have sometimes found a probe pass four or five inches up the pelvis into a large cavity beside the rectum. These are cases of some interest, respecting which I shall have to speak to you again, presently.

The external orifice of the abscess is generally in the skin, a little distance from the anus. Sometimes it seems to pass through the substance of the sphincter muscle, and on other occasions it opens externally to it. The abscess may burrow, and may be two or three inches away from the anus.

In some cases there is no external opening at all, and that may happen in two ways. I saw a gentleman who had an ulcer at the posterior part of the rectum as broad as a four-penny piece. Sometime afterwards I saw him again, and there was then a considerable discharge from the rectum, but no external opening. I introduced my finger into the rectum, and found that this broad ulcer had made a large cavity, in which matter was lodged, by the rectum. The sinus was so large that the matter had found its way out by the gut, and therefore did not burrow so as to make an external opening. But in other cases there is no external, while there are two internal openings, and they are found in the following manner:—There is a small opening through which the pus and fæces were originally infiltrated into the cellular membrane,

and then the matter having collected near the gut, bursts into it, and makes a free opening into the neighborhood of the first lesion. On examining the patient you find a discharge of pus from the inside of the rectum, and on introducing the finger you find distinctly the opening through which the abscess has burst into the rectum. This is what is commonly called blind fistula. The discharge in these cases is seldom quite constant; for the opening made by the bursting of the abscess into the rectum is not so large but what it sometimes contracts, and there not being a free discharge the matter collects, and you may feel it through the skin, near the anus. This is important with regard to the treatment, as I shall explain hereafter. At other times the orifice allows the matter to escape by the rectum, and then the external tumour disappears.

In some cases there is a simple abscess and a simple sinus; but in other instances the disease is very complicated. The matter does not easily get to the surface, and it burrows in different directions; there is a sinus in this direction, and a sinus in that; sometimes it extends even to the middle of the nates, and there may be a sinus on both sides of the rectum. In these cases, where there are several sinuses, and where the disease is rendered complicated from the burrowing of the matter, it sometimes happens that there are two internal openings; but in general, however complicated the case may be, there is only one internal opening, and that communicates directly with one sinus, and indirectly with another. It is of great consequence to bear this in mind as connected with the surgical treatment. Where there are several sinuses, burrowing in different directions, the patient always experiences some degree of inconvenience. The matter lodges in one place, not in another, but wherever it lodges it occasions pain, there is an attack of shivering, and then the matter escapes. It then lodges in another place, there is another attack of shivering, and in these complicated cases the patient is continually suffering local pain and tenderness, and these are combined with constitutional disturbance.

I now come to consider the treatment of these cases. Why is it that the abscess does not heal? It may, as I supposed formerly, partly arise from the unfavorable locality for healing, in consequence of the muscular fibres of the parts being always in motion. The levator muscle and the sphincter ani are constantly drawing the parts asunder, so that they are not allowed to contract, but that is not a sufficient explanation. There is an internal opening to the abscess, and now and then

a little bit of fæces or mucus will become infiltrated, and get into the cavity. That which produced the abscesses originally is going on still. If you could get the inner orifice to close, the patient would soon recover. This does sometimes take place. I saw a patient who had an abscess by the side of the rectum, and to whom I recommended an operation, but for some reason or other he wished to put it off. He went about for a considerable time with this abscess, and when I saw him again the abscess was closed, and had been closed so long, and on a careful examination the parts seemed so sound, that I had no doubt that the inner orifice had healed spontaneously; the escape of feculent matter was thereby prevented, and all the parts granulated and contracted like an abscess elsewhere. The medicine which we now call confec. piperis nigri was originally a quack medicine known by the name of Ward's paste. It is composed chiefly of black pepper and elecampane, and it had the reputation of curing fistula. I believe that it sometimes did so. It is very useful in the case of piles, and where there is an ulcer of the rectum unconnected with fistula. The black pepper mixes with the fæces, it passes down the canal, and becomes a stimulant to the mucous membrane. In this point of view it is useful to persons that suffer from disease of the mucous membrane after dysentery, or who have disease of the rectum. As it will cure piles and an ulcer of the rectum, so no doubt it will sometimes cure fistula. If the little ulcerated opening can be made to contract and cicatrise there is no reason why the external abscess should not heal. But you cannot depend on such a mode of treatment as this; it may or it may not happen to cure the patient, and for one instance in which it effects a cure, it fails a great number of times. The disease, however, may generally be cured by a very simple operation, and in speaking of the operation we will take the simplest case first. We will assume that there is a fistula just by the side of the sphincter muscle and only one sinus. The first thing to be done is to find the inner opening. I do not say that you will always succeed in finding it—certainly not the first time, but you will rarely fail if you look for it in the right place. Formerly, I often failed, and for this reason,—I did not know where to look for it. I used to think that it was to be found in the upper part of the sinus, but it is never found there if the sinus runs high up. You must search for it immediately above the sphincter muscle. Another circumstance that makes it difficult to find is this:—The common probe being quite round turns round in the hand; you want a probe of a much broader kind, so that

the least motion of the hand turns the point another way. For this operation I use the probe I now show you, made by Philp and Wicker, in St. James's street. First, it has a flat handle, and that gives you a perfect command of the instrument; secondly, at the extremity it is like a common probe; but you must have probes of different sizes. There is a groove, so that it is both a probe and a director at the same time, and being made of silver it is perfectly pliable.

Now, to find the inner opening, place the patient over a table to the light, with an assistant to hold the legs. You introduce the fourth finger of the right hand into the rectum, remembering that the opening is close to the sphincter muscle. You will feel with the finger some little irregularity, and that is where the opening is probably situated. You are then to introduce this probe into the external opening with the assistance of the finger in the rectum, using no force, and by a careful manipulation feeling first in one direction, and then in another, at last it will almost alone pass through into the rectum. It must be done gently, and a little practice will enable you to find the inner opening. You ascertain when it has passed through the opening by its coming in contact with the finger. If you do not find the opening the first day, put off the operation to another day. Occasionally I have tried two or three times before I could discover the opening, but generally, if you have probes of different sizes, it is easily found. Sometimes the opening is very small, and therefore requires a small probe. When you have found the inner opening, and the probe is in contact with your finger, you bend the end, and bring it out at the anus. Thus, the part towards the handle is seen projecting from the outer opening, and the other part from the anus, while the parts which are to be divided lie upon the groove of the director. I generally divide the fistula with a pair of curved knife-edged scissors, for they cut better than a bistoury. A bistoury tears, and you may cut your own finger if you use the sharp edge. Introduce the scissors along the groove of the director, and divide the parts that lie between the inner and the outer orifice. There is scarcely any thing to be divided—not above an inch or an inch and a quarter, but you divide the greater part of the sphincter muscle.

Having performed this operation, all you have to do is, to prevent the cut edges growing together. You have made it into a sore, some of the fæces go into the sore, but they do not lie and lodge there, and there is nothing to prevent this fistula which is now made into an open sore granulating and

healing. All you have to do is to dress the parts very lightly between the cut edges to prevent them growing together, and that must be continued till the cut edges are skinned over. You may then leave the parts alone, and the healing process will go on.

But suppose that the fistula extends high up by the side of the rectum, above the opening, and this fistula is burrowing, what is then to be done? I used to imagine formerly that it was necessary to lay open the whole sinus into the rectum, but it is a frightful operation to lay open so long a sinus. You do not know what vessels you divide. There is seldom much bleeding in dividing the parts between the inner and the outer opening, but if there be much the pressure of the finger and a bit of lint stops it directly. I remember a case where I dvided a fistula some way up by the side of the gut, and the whole canal was filled with blood. It is true the bleeding stopped, and the patient got well, but still he might have died from hæmorrhage. The bleeding goes on insidiously; you do not know how to stop it; it is internal, you cannot take up the vessels, and you cannot make pressure in any efficient man ner. But I am now satisfied, and have been for a long time, that the division of a fistula which extends above the inner orifice is quite an unnecessary proceeding. Upwards of twenty years ago, when I was first getting into practice, I had a patient with a fistula, which I divided, or, at least thought I had done it. But one day, when examining it with a probe, I found a sinus running up by the side of the gut for several inches. It seemed as if one side of the rectum was completely dissected from the neighboring parts, but there was a good opening at the lower part where I had divided the fistula. Not knowing what to do with the case, I called in the late Mr. Cline, and observed to him that if I divided it the whole length the patient might die from loss of blood. He said, "You are quite right, but more than that I do not think it is necessary, I would leave it alone." There was a free opening below; the fæces could not escape so easily now, and get into the cavity above. I adopted his advice, and the patient got well without any trouble. I have since seen other cases of the same kind. Where there has been a large sinus, connected with a fistula, I have laid open the parts between the inner and the outer orifice,—done nothing more,—and the patient has got well. If a very long sinus, and a very large cavity, heal up without being laid open, *à fortiori*, if there be a small sinus, and a small cavity, that will heal up too.

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TRAVELING LETTERS FROM THE SENIOR EDITOR.

NO. I.

MOBILE, April 23d, 1844.

To my Colleagues:

GETLEMEN:—I have now been in this, the second city of the gulf coast, for nearly a fortnight, and must report myself to you and our readers. You may fancy that I am among French and Spanish creoles, with numerous opportunities of observing the physiology and diseases of the descendants of France and Spain; but such is not the fact, for this is nothing more nor less than a veritable Yankee or New York trading town; the mass of the people being emigrants from the old thirteen, with even a larger population from the states of the north than can be found in Louisville. Of course they have brought with them the temperaments and predispositions of the families from which they were detached; and do not present to the eye of a northern physiologist any thing very new. Howbeit, Mobile is not without a considerable number of French, and a smaller num-

ber of Spanish creoles, a numerous mulatto and quadroon population, who speak the French tongue, and a body of Irish immigrants, much greater than I had expected to see. Apart from the marines, the last make up the majority of the inmates of the two extensive hospitals, of which, before closing, I shall say something.

Topography of the City.

The front squares of the city plat were originally a cypress swamp, into which the high tides of the bay were wont to flow. This border is now filled up with sand and built upon. This sand was brought from a plain or terrace in the rear, and the streets which start from the bay rise gradually to an elevation of fifteen or twenty feet. This plateau, naturally covered with pine and oak, stretches to the west five or six miles, when it terminates at the base of another plateau, about 100 feet high, a part of which makes the summer retreat of many families. Out of these wooded sand-hills several copious springs supply the city with very pure and soft water, having a temperature, before it enters the aqueduct, of 68°. Of course it does not get any cooler in making its way into the city, not far below the surface of the ground, in the latitude of 30° 45′; but ice is as "plenty as blackberries," (which by the way, are now on our tables), and so cheap as to be used profusely in all the drinking houses, and by nearly all classes of people. It was long since observed that no body died in Mobile from drinking water when heated in summer; and the reason assigned was the high temperature of the former compared with the well-water of Philadelphia and New York, where such casualties are said to be common. This opinion, however, was killed off by ice, when our medical brethren found that iced water failed to kill any of those laborers who drank it profusely at mid-summer, and there the matter rests, and there I will leave it, and return to Spring Hill. The road to this summer retreat lies through a series of beautiful country seats, much more numerous and elegant than those which embellish our boasted Bardstown-road.

I have brought you back to the pine woods to astound you with a notice of the

Thundering Spring,

which has been noised abroad in these parts for the last four years, and to which on Monday last, I made a sort of philosophical pil-

grimage, in company with some ladies of taste and observation. You may smile at such companionship in a tour of medical inquiry, but recollect that this was a rural excursion into the midst of natural scenery, and that the eyes and tastes of both sexes are necessary to a full perception of all the aspects which exterior nature presents. The latter part of our trip lay through a lofty forest of long-leaved pine, with but little shrubbery or under-brush, as the fire annually runs over the surface. The spring boils up about fifty feet below the summit level, and flows off into an adjoining woodland swawp or marsh, making one of the sources of "three mile creek;" which is bounded by swamps to its junction with Mobile river, two or three miles above the city. The quantity of water driven up and discharged by the thundering spring, is such as to give it a high rank among the fountains, (I shall not attempt a closer estimate). It boils up in such a manner as to suggest the escape of air, but none is emitted. This boiling is not uniform, but now and then there comes a momentary exacerbation, when the copious but humble *jet d'eau* rises several inches above the surface. A quantity of yellow sand is constantly rising with the strong ascending current, and falling back into the crater, which is an irregular aperture or chasm, in a friable, tertiary sand-stone of a reddish color. When a pole is run into this rocky orifice, it is found to be irregular and several feet in diameter; at the distance of eight or ten feet it is stopped by some obstruction. But I must come to the thundering part of my description. We had stood near the fountain but a moment, when we heard, under our feet, a noise like that of low distant thunder, or the rumbling of a carriage over the pavement of the street when we are seated at the fire-side with the doors and windows closed. It seemed like the sound of a subterranean, and irregularly intermittent cataract. On applying the ear to the trees and saplings which grow around the spot, the same sound was heard still more distinctly, and, moreover, a constant vibration was perceptible. I had not time, by a series of observations, to ascertain the distance from the spring, to which this tremor is propagated; but the owner, Mr. Pierce, who lives on the summit level, about two hundred yards off, assured us that the sound was often heard by his family. He made the discovery of this spring about four years ago, and immediately conceiving that it possessed some extraordinary virtues, determined on making it a watering place for the fashionables

of the city, and an asylum from the yellow fever. For aught that can be known, he might have regarded it as the fountain of health and rejuvenescence, which Ponce de Leon sought when he landed on the shores of Florida. Like any other pains-taking and industrious man, he resolved not to rely merely on the fountain's voice to call out the ladies and gentlemen of Mobile, but captured and encaged a rattlesnake, whose *gong* might co-operate with the groanings of the gnomes and nymphs below; but neither the voices calling from this "vasty deep," nor the rattle of the watchman of the woods above, have as yet assembled the expected throng of customers. In fact when tested with reagents, the water is free from every foreign ingredient except a trace of muriate of soda. Its purity indeed, is just as great as that of the neighboring springs, from some of which the city is supplied; but I found its heat 69°, or one degree greater than the other copious fountains round about. Such is the thundering spring, the theory of which I shall leave to yourselves and the geologists, returning to the city to give you a notice of some of its institutions; beginning with

The Profession.

On the whole, I am disposed to believe that Mobile is not quite so much crowded with the messengers of life and death, as most other towns I have visited; but of course I have not become acquainted with the whole, and cannot even state the number. Those whom I have the pleasure of knowing, are generally, intelligent, peaceable and courteous, having, as far as I can discover, the confidence of a very well-informed community, to which they are as much entitled as any equal number of medical gentlemen in any town that I visited. They have among them a chartered association styled the

Mobile Medical Society,

which embraces the most popular practitioners of the city, and holds monthly meetings, at which papers are read and discussed. The society has also established a tariff of charges, by which a physician is permitted or required to charge three dollars per single visit, and five for two visits on the same day, furnishing his own medicines and charging for the same. I fear this information will set the mouths of some of our brethren on the banks of the Ohio, Green River, and the Wabash to watering; but a traveler, you know, is

bound to tell the truth. The society is authorized by its charter to appoint out of its own body an

Examining and Licensing Board,

of five members, for the county of Mobile; and no scientific physician, even, I believe, a graduate, not thus licensed, can have the benefit of the courts of justice to collect his debts. Steam doctors, however, are exempt from this penalty! Verily, the legislature of Alabama must know much more of the science of cotton-planting than of medicine. I would advise them to look a little to consistency, and create a board of examiners, composed of men who can read, to ascertain that the disciples of that good, old mystical empiric, Samuel Thomson, really understand his book; without which they should not be allowed the benefit of the law. This measure, would, I fancy, soon drive them back to their *lasts* and *geese*.

I must, however, do the legislature the justice to state, that notwithstanding their tender admiration for the steamers, their respect for public opinion has deterred them from consituting that fraternity, the legal advisers of the city council; for, by its charter, the society is required, under the ordinances of the city, to organize a

Board of Health,

and procure and communicate the information necessary to the prevention of disease. To this end, the president, vice president, and secretary of the society constitute the advisory and executive cabinet of the council.

The City Hospital.

This is an extensive and commodious edifice, erected several years ago, so far from the Bay that it is still in the edge of town. It was designed strictly for the sick, and not as a receptacle for healthy paupers. Till last spring, it had the care of sick marines, and received from the general government the port money. The mass of its expenses was, however, defrayed out of the city treasury. At present it is rented to two enterprising physicians, Drs. Crawford and Ross, who, for a specific sum engage to receive, and take care of a given number of patients. The edifice is clean, well ventilated and appears to be managed in a faithful and efficient manner. A majority of the patients are Irish. There are wards appropriated for pay-

ing patients, and gentlemen who may be taken ill in Mobile, would do well to repair thither.

Commercial Hospital.

This was lately finished by the general government. It stands hard by the other, which, in architectural appearance, it rather overshadows. The plan is good, and in passing through it, I could not but be struck with the greater care bestowed by the Federal government on the wants of the water-men of the coast, than of the interior, which has been petitioning, unsuccessfully, for the last ten years. The physician who has charge of this public charity, is Dr. Gale.

Lunatic Asylum.

Neither Mobile nor the State of Alabama, has a hospital for the insane. It would be superfluous to say, that one is greatly needed. Eighteen months ago a gentleman was carried by his friends from the interior of this State to Ohio, and had to be brought back, because he could not for want of room be admitted into the excellent asylum at Columbus. Why do not the respectable and influential physicians of this State bring the subject before its general assembly; and continue pressing it on that honorable body, till an appropriation for a State institution be made? But it should not be established in Mobile, on account of the distance from the northern boundary of the State, and because its inmates might be invaded by yellow fever. Moreover, if it be erected at the seat of government, it will be more likely to receive the fostering care of the legislature, than if at a distance, where its touching scenes and precious blessings, would not display themselves to those who are to vote the annual supplies. I do not hesitate to predict, that if this subject should be forcibly, that is fairly, presented to the general assembly, the second session after such a presentation would afford an appropriation with which to commence an edifice, equal to the wants, and worthy of the character of this respectable State.

School for the Blind and Deaf.

These, although less urgently needed than a hospital for the insane, are important desiderata; and here, again, the children of misfortune and penury look up to the members of the medical profession. It is for them to make known to governors and legislators the resources of science and humanity, under the loss of sight and hearing; to plead for those whom they cannot restore; and establish them-

selves in the hearts of their fellow-citizens by proving themselves the benefactors of the unfortunate and obscure—for whom, too often, no body cares, because no body sets forth their infirmities, or points out the means of relief. The blind and deaf children of the rich may be sent away to the schools of another State, but those of poor parents necessarily grow up in ignorance. All such should be regarded as the children of the State, and be educated by her;—policy humanity and justice, alike, call for this public consideration. I say justice, because the State is endowed by the general government with a large landed income for the promotion of learning, in which the blind and deaf, without appropriate schools, can in no wise participate. But I have made my homily quite as long as becomes a stranger; and will break off, for the purpose of telling you something about

Yellow Fever.

Under the old Spanish and French regime, when Mobile was a village without wharves or ships, save an occasional lugger, when new comers were seldom seen in the crooked and narrow streets, and the people preferred fiddling and dancing to clearing off the drift and filth, which lodged in the margin of the stream, yellow fever never made its appearance. The first epidemic of which I am able to collect any imformation, was in 1819, since which it has recurred in 1821, '25, '27, '29, '37, '39, '42 and 1843, appearing sporadically in many other years. Of all these epidemics, I have by the kindness of the physicians and other gentlemen, collected a considerable number of facts. In reference to their origin, there is no diversity of opinion. I have not yet met with the first believer in importation. However they may disagree as to the mode of domestic origin, all concur in it as a reality. In reference to importation, Mobile is peculiarly situated, as the waters of the Bay are too shallow to admit of the approach of ships to the city, all of which, at least all the larger, lie 20 or 30 miles below, just within the Bay. I am far from considering the unanimity of opinion on this subject as conclusive; but it must be admitted to have in it the value of a fact; and I cannot but regard it is remarkable that, with an epidemic recurrence, on an average, every three years, if it were imported by ships which cast anchor at such distance from the city, its introduction from them should never have been detected.

Dr. Dewees' Residence.

Many of our readers have the name of Dewees so intimately associated with Philadelphia, as the theatre of those labors which finally made him the first man of America, in his line, that they may be surprised at the head line of this paragraph. In writing it I feel that I am but discharging a filial duty, for I was his pupil through the winter of 1805–6. It will be recollected, that after an apoplectic attack a few years before his death, he emigrated to this city, in the hope that its mild climate might renovate his crippled brain and nervous system. He immediately became the consulting physician of the place, and patients were brought to him from the interior, from Pensacola, and even New Orleans. Change of scene and climate, with these gratifying manifestations of confidence in his skill renovated his hopes, but failed to restore either his former health or mental power. While thus buoyed up, he engaged in building a large and curiously planned house, high up Government Street; and the pupil, who like myself, may make a pilgrimage to it, will find the unfinished, and dilapidated edifice inhabited by four poor families, with a school of eight little girls.

Meteorological Observations.

Mobile has a meteorologist, Dr. Stephen North, who makes observations worthy of being recorded, because confidence may be placed in their accuracy. This I am sorry to say is not always the case. I take pleasure in making him still better known, as it may lead observers in other places to seek exchanges of results with him, while this brief notice, is but an appropriate tribute of respect, for his patient fidelity as an observer.

Plan of the City and its Environs.

Mr. Lewis Troost, civil engineer and city surveyor, has just finished for me a map, of octavo size, which will show all the relations of water, dry land, and swamp, to the city. This will be one of a series, illustrative of the medical topography of the regions I have been, and still am exploring. I hope they will be found interesting and instructive.

Smoking and Drinking.

If one may judge from the number and populousness of the saloons and dram-shops, the number of drinkers, in this city, in proportion to

its population, is not surpassed by any other city in the world. The temperance reform, in its palmiest days, seems to have extended less influence here than in most other places. The Irish laborers, who are very numerous, drink from instinct, and to support their national character, as it was before their emigration; but the saloons are as crowded as the doggeries. I am assured that not long since, there was a coffee house here, which cleared annually more than the salary of the President of the United States; and, at this time, the bar-room of the largest hotel of the city, is said to meet the expenses of the entire establishment. A large proportion of these customers are from those States in which public opinion has thrown its salutary restraints around young men, who, on the distant shores of the gulf, are indemnifying themselves for the deprivations under which they languished on the banks of the Delaware and the Hudson. Thus it is, that they prepare themselves for yellow fever; which, last year made its *debut* among a party of this kind, immediately after they had spent three days in a carousal over the Bay.

Moral and Refined Society.

Of this I feel abundant evidence every day, and its hospitality is equal to its intelligence and purity. Under this conviction, having finished my inquiries into its diseases, I shall leave here to-morrow for New Orleans, where your will hear from me again in due time.

D.

ILLINOIS MEDICAL JOURNAL.

A new journal is offered to the profession from the far west. Dr. Blaney, of Chicago, issued the first number of the *Illinois Medical and Surgical Journal* in April, and proposes to publish it monthly at $1 per annum. At this price, it would be supposed that any physician might afford to take it. The Illinois Medical Journal prefers some peculiar claims upon the profession in that thriving quarter of our country. In the nature of the case, it must possess a local interest, and it will afford to the physicians in that region a medium through which they may make known their views and experience. The medical schools in the United States sent out at the late commencements, we believe, twelve hundred graduates, who are now assuming the responsibility of their profession, and who ought to

be reading men. Such accessions to the ranks of the profession must multiply rapidly the subscribers to medical journals, and in the growth, room, it is to be hoped, will be found for the new journal of Illinois. Y

PROFESSOR BARTLETT.

This accomplished and popular teacher has resigned his professorship in the Transylvania medical school, and accepted of a chair in the University of Maryland. Professor Bartlett's learning, talents and address rendered him an ornament to the institution which he has left, and qualify him for great usefulness in the new sphere to which he is about to remove. He carries with him the respect and good wishes of all his brethren in the West. Success crown his efforts to make the ancient school of Baltimore one of the first in America! He is succeeded by Dr. L. G. Watson, of N. C. Y.

MEDICAL SOCIETY OF TENNESSEE.

This society held its fifteenth annual meeting in Nashville on the 1st of May, and a copy of its proceedings is already on our table. The members who persevere in attending the meetings of this society, and labor to impart interest to them by communicating the results of their experience, deserve well of the public. They are fired by the proper zeal to raise the standing and contribute to the resources of their profession. We have repeatedly had occasion to applaud the spirit of this society. It has no toleration for quackery. A book was sent to it by Dr. Sappington, of Missouri, at its late meeting, which came in a rather questionable shape through a newspaper advertisement. Resolved by the Society, "that the book be returned to its author."

Interesting papers were read to the society which we expect to receive for insertion in our journal. Dr. Buchanan was re-elected President, and Dr. Thompson Vice President; Dr. C. K. Winston was elected Corresponding Secretary, Dr. Stout Recording Secretary, and Dr. R. Martin Treasurer of the Society. Many valuable specimens have been added, during the year, to the Society's Anatomical Museum. Y.

PROFESSOR CALDWELL AND ANIMAL CHEMISTRY.

Some of our friends, very recently, have expressed to us an apprehension that the spirit of our review of Professor Caldwell's Critique on Liebig's Animal Chemistry, might be misconceived. To prevent the possibility of any such misconception, we gladly avail ourselves of this opportunity to declare, that our review was written in a temper of the utmost respect and kindness for our distinguished colleague, whose magnanimity, we knew, tolerated the severest criticism of his doctrines. If our notice contains a single expression which evinces anything of a contrary spirit, we sincerely regret it. We would gladly expunge every word, which might not be used with propriety by a pupil towards a venerated preceptor. We felt constrained to notice the Critique, and, in doing so, we set forth plainly our objections to it; at the same time, it was our study to avoid every form of expression that could give offence. Y.

PROFESSOR HALL, OF BALTIMORE.

Some months ago, Prof. Hall was arraigned before the Regents of the University of Maryland on the ground of incompetency. The graduates in March adopted the most complimentary resolutions to the professor, for his industry, talents and learning, declaring that they "listened with pleasure and improvement to his able and complete course of lectures." Y.

NECROLOGY.

Dr. Francis W. Campbell, of Spring Hill, Arkansas, died at Jackson, Tennessee, on the 5th of April last, of abscess of the liver, resulting from repeated attacks of bilious fever. The abscess discharged its contents into the cavity of the chest—whether into the pleura or the lungs, is not stated. Dr. C. was 35 years of age, a skilful physician, a gentleman and a christian, whose loss will be keenly felt by a large circle by whom he was highly and justly esteemed. Y.

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